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UM-ST. LOUIS
BULLETIN

Undergraduate, Graduate and Professional Catalog

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# University of Missouri-St. Louis

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Instructional Areas

Many departments offer courses in several subject areas. This list is provided for easy student reference.

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Astrophysics
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Biotechnology
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Chemistry
Chinese
Classical studies
Clinical laboratory science
Communication
Communication theory and rhetoric
Community Education
Comparative politics
Computer science
Conservation biology
Counselor education
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Educational psychology
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Educational technology
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Finance
French
Forensic Economics
German
Gerontology
Graphic design
Greek
Health Information Systems
History
Higher Education
Human Resource Management
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International business
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Logistics and operations management
Management and organizational behavior
Management information systems
Management science
Marketing
Mass communication
Mathematics
Medical physics
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Music
Music education
Museum studies
Nonprofit organization management and leadership
Nursing
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Pre-pharmacy
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Radio and television
Reserve Officer Training Corps
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Social work
Sociology
Spanish
Special education
Statistics
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Theatre
Trauma studies
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Urban studies
Women's and gender studies
Writing
Preface

This Bulletin includes a description of undergraduate and graduate programs at the University of Missouri-St. Louis. All statements in this publication concerning regulations, fees, curricula, or other matters are subject to change without notice. They are not to be regarded as offers to contract.

The University of Missouri-St. Louis is accredited by the Higher Learning Commission of the North Central Association. This accreditation applies to all baccalaureate, masters, and doctoral levels.

The policies of the University of Missouri-St. Louis comply with the provisions under those laws which forbid discrimination on the basis of race, color, sex, national origin, religion, age, handicap, or veteran status in any program or activity of the university.

Demographic data are obtained by the University in order to determine the effect of efforts related to the provision of equal educational opportunity. Completion of this information is optional.

Information regarding the provision of auxiliary aids and services to qualified students with disabilities can be found in Admissions and Academic Policies of this Bulletin. Students considering such assistance should contact the Director of Disability Access Services at (314) 516-6554 voice or (314) 516-5212 TT for further details.

Address inquiries regarding admission to all divisions of the university to the Director of Admissions, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499. For information concerning the University of Missouri-Columbia, the University of Missouri-Kansas City or the University of Missouri-Rolla, write directly to the Director of Admissions at the appropriate campus or visit our website at www.umsl.edu.
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University Health Services
141 MSC, 516-5671

University Meadows
2901 University Meadows Drive, 516-7500

University Relations
440 Woods, 516-5255

Veteran Affairs, Office of
269 Millennium Student Center, 516-5679

Video Instructional Program
201B JCP, 516-5370

Women's Center
211 Clark Hall, 516-5380

Women's and Gender Studies, Institute for
607 Tower, 516-5581
Administration

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Judith Walker de Felix, Ph.D., Graduate School
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Sally Hardin, Ph.D., Director of Doctoral Program
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Introduction to UM-St. Louis

The University of Missouri-St. Louis is one of four campuses that constitute the University of Missouri. Established in Columbia in 1839 on the ideals of Thomas Jefferson, the University of Missouri became a land-grant institution upon passage of the Morrill Act by Congress in 1862.

The university remained a single-campus institution until 1870, when the Rolla campus was opened. In the 1960s a movement began across the country toward creation of public universities located within metropolitan centers. That movement marked the most significant change in higher education in the twentieth century, and the University of Missouri-St. Louis is a product of that educational development. Two campuses were added in 1963. The private University of Kansas City became the university's Kansas City campus, and an entirely new campus was started in St. Louis.

The notion of a major public institution serving the St. Louis area evolved from a dream to a solid reality, which today exceeds the expectations of those who created it. Since the doors of the Old Administration Building opened nearly 40 years ago, UM-St. Louis has become the largest university serving St. Louisans and the third largest university in the state. The university faculty has grown from 30 in 1963 to more than 900 members, committed to the future of the St. Louis area through teaching, research, and service.

One of the keys to this university's development as an outstanding institution has been the careful selection of faculty over the years. UM-St. Louis has attracted some of the top authorities in many fields. More than 90 percent of the full-time regular faculty hold doctoral degrees, a figure that far exceeds the national average. These professionals develop new theories and new procedures, and in so doing attract millions of dollars each year in research funding.

Student enrollment has grown from 600 in 1963 to more than 15,000. The numbers have changed, but not the spirit. Faculty and students are still most concerned with the education of new talent, which is the basis for the future social, intellectual, and economic health of Missouri's largest metropolitan area. From its beginning on what was once the site of a country club with a single building, UM-St. Louis has grown to a large modern campus of almost 300 acres with 58 buildings used to support academic and other University activities.

The curriculum has grown to include more than 40 undergraduate programs, 30 master's programs, seven preprofessional programs, 12 doctoral programs, and one professional degree program. Programs address the particular needs of older students returning to school; of students pursuing pre-architecture, pre-law, pre-medicine, pre-pharmacy, pre-engineering, or pre-journalism courses, and of students interested in urban careers. Many opportunities exist for students to combine their academic course work with internships that often lead to job offers.

Mission Statement

The University of Missouri-St. Louis is the land-grant research institution committed to meeting the diverse needs in the state's largest metropolitan community. It educates traditional and nontraditional students in undergraduate, graduate, and professional programs so that they may provide leadership in health professions, liberal and fine arts, science and technology, and metropolitan affairs such as business, education, and public policy. University research advances knowledge in all areas, and through outreach and public service, assists in solving, in particular, problems of the St. Louis region.

Academic programs are enriched through advanced technologies and partnerships that link UM-St. Louis to institutions and businesses locally, regionally, nationally, and internationally. Its special commitment to partnership provides UM-St. Louis with a leadership role among public educational and cultural institutions in improving the region's quality of life, while its relations with two- and four-year colleges and universities in the St. Louis region promote seamless educational opportunities.

Academic Structure

UM-St. Louis consists of the College of Arts and Sciences, College of Business Administration, College of Education, Evening College, College of Fine Arts and Communication, Graduate School, Pierre Laclede Honors College, Barnes College of Nursing and Health Studies, College of Optometry, UM-St. Louis/Washington University Joint Engineering Program, and Continuing Education and Outreach.

College of Arts and Sciences.

The College of Arts and Sciences, largest of the divisions, includes 15 academic departments. These departments combine general educational offerings that provide students with opportunities to acquire a breadth of knowledge and a foundation in the basic skills of intellectual inquiry with basic preparation for the student's professional life through learning experiences leading to a career in a specific field.

College of Business Administration

Through its undergraduate and graduate degree programs, the College of Business Administration expands student capability in communication, analysis, and judgment, enabling its graduates to deal effectively with today's complex economic environment. The college maintains a balance between the specialization of professional courses and the diversity of liberal arts.
College of Education
Consistently one of the top three institutions in the state in production of educators, the College of Education provides undergraduate and graduate programs to prepare and sustain educational leaders. Its programs emphasize state-of-the-art technological applications to enhance teaching and learning as well as collaboration among university, school, agency, and corporate partners.

College of Fine Arts and Communication
The College includes the departments of Art and Art History, Communication, Music and Theatre and Dance. The faculty and alumni of the College have distinguished themselves as scholars, visual artists, teachers and performers. The University's new $55 million Performing Arts Center is slated to open in the fall of 2003, affording two world-class venues for performances. In addition, three galleries offer space for display of student and faculty artwork as well as visiting exhibitions.

Evening College
For students interested in traditional university study, the Evening College offers many of the undergraduate degree programs and campus services available to day students and ensures that these programs conform to the same standards and requirements as their daytime counterparts.

Graduate School
Programs offered in the Graduate School fall into two categories: professional programs designed to develop a special competence in a particular field and academic programs designed to develop the student's command of a range of related subjects within a field. These graduate programs are structured to meet the needs of the metropolitan area and to give students the skills and professional competence to succeed.

College of Optometry
The College of Optometry is one of 17 such schools in the United States. It provides professional optometric education and clinical experience. Facilities are furnished with equipment for teaching and research. The school operates the University Eye Center on campus, the Optometric Center of St. Louis in the city's Central West End, and the East St. Louis Eye Center, jointly owned and operated by the UM-St. Louis College of Optometry and Southern Illinois University at Edwardsville.

Pierre Laclede Honors College
The Pierre Laclede Honors College brings together intellectually curious and gifted students who are pursuing various career goals and earning degrees in disciplines offered by the university's other undergraduate schools and colleges. Honors Scholars follow a special curriculum that combines Honors College classes with course work done for honors credit in their major areas. In addition to offering scholarships and stipends, the college's Community Mentorship Program links scholars with model urban citizens who share their interests.

The college also coordinates participation in The National Student Exchange (NSE), an association of 174 colleges and universities that have joined to provide tuition reciprocal exchange opportunities for their students. Since 1968, over 70,000 students have been placed at campuses across the U.S., its territories, and recently Canada.

Students have gone to Florida to study marine biology, to the University of Alabama to study criminology and to the University of Montana for Wilderness Studies. UM-St. Louis students have attended a variety of schools in all regions of the country for academic, personal, and social reasons; NSE students from an equally diverse number of campuses have enriched our classes and residence halls and contributed vitally to on-campus life.

Barnes College of Nursing and Health Studies
The Barnes College of Nursing and Health Studies offers programs at the bachelor's, master's, and doctoral levels. The Bachelor of Science in Nursing is available for a student wishing to pursue a program of study leading to eligibility to complete state licensure examinations to become a registered nurse (R.N.). In addition, an upper-level option designed for the associate degree or diploma-educated registered nurse avoids repeating basic nursing course work. The Master of Science in Nursing, a cooperative program with UM-Kansas City School of Nursing, offers studies in adult, children's, and women's health. Practitioner options are also available (adult, family, pediatric, and women) as part of the MSN program. The Ph.D. in Nursing offers studies focused on health promotion and protection, health restoration and support, and health care systems.

The Barnes College of Nursing and Health Studies also offers bachelor's programs in health studies with options in cytotechnology and clinical laboratory scientist. Both programs are accredited by the Committee on Allied Health Education and Accreditation.

UM-St. Louis/Washington University Joint Undergraduate Engineering Program
The University of Missouri-St. Louis and Washington University have joined forces to offer ABET-accredited Bachelor of Science degrees in mechanical, electrical, and civil engineering. Students who enter the program take about half of their course work—mathematics, physics, chemistry, humanities and social sciences, and some elementary engineering subjects—on the campus of UM-St. Louis. The remaining half consists of upper-level engineering courses and laboratories taken on the campus of Washington University and taught by Washington University engineering faculty members. Students register for all courses at UM-St. Louis, pay tuition at UM-St.
Louis rates (plus a small surcharge on engineering courses), and receive their degrees from the University of Missouri.

Division of Continuing Education and Outreach
Continuing Education and Outreach extends the university's expertise to the community by offering a variety of credit and noncredit courses, both on- and off-campus. It also sponsors programs in the community, such as the annual St. Louis Storytelling Festival.

Office of International Student Services of the Center for International Studies
The Office of International Student Services assists international students and scholars with undergraduate and graduate admission, credential and transfer credit evaluations, visa and immigration advising, pre-arrival and cultural adaptation assistance, new international student and scholar orientation, prospective student information requests, and personal advising. The office also coordinates activities for integration of students and scholars into the community by facilitating cultural events and activities, coordinating the annual International Student Speaker's Bureau, and working closely with other campus and community organizations.

Student Life
Although UM-St. Louis provides opportunities for all students through a demanding curriculum, the life of the university is not all work. There are a great many leisure-time activities, either free or at reduced cost to students. Numerous student organizations, from the Accounting Club to Zeta Tau Alpha sorority, seek members-and leaders. Interesting speakers, concerts, film series, plays, exhibits, recitals, and a host of informal gatherings crowd each week's schedule. The St. Louis area offers still more recreational, sports, and cultural events.

The university offers a wide range of varsity and intramural sports for students, whether as players or spectators. On the varsity level, Rivermen and Riverwomen compete in most major sports. UM-St. Louis men's soccer teams have participated in numerous NCAA Division II tournaments; the team won the national title in 1973. The men's basketball, baseball, and golf teams frequently play in national tournaments. The expanding women's program includes varsity competition in basketball, soccer, softball, volleyball, and tennis. The women's soccer team ranks nationally in the top 20 teams nationwide.

The Mark Twain athletic facility offers a state-of-the-art fitness center, weight room, swimming pool, and basketball, volleyball, handball, and racquetball courts. Outdoor facilities include tennis and handball courts, a fitness trail, and baseball, soccer, and softball fields. Students will find fitness activities, both organized and individual, to suit their interests and needs. Intramural sports are available to all students, with schedules designed for maximum participation.

Graduates
The graduates of UM-St. Louis reflect the diversity found in a metropolitan community. The university has more than 62,000 graduates living in all 50 states and several foreign countries. Of these alumni, more than 80 percent continue to live and work in the St. Louis metropolitan area.

The university is a major force in providing the region with a highly educated and diverse work force. Alumni can be found in companies and organizations throughout the region and nation. UM-St. Louis has graduated more than 6,000 accountants, 4,600 nurses, and 400 doctors of optometry. With more than 8,000 graduates, the College of Education is the largest educator of teachers in the St. Louis metropolitan area.

Confidentiality Policy
These statements are set forth as guidelines and procedures to implement the University of Missouri policy on student records developed from The Family Educational Rights and Privacy Act of 1974.

The University of Missouri-St. Louis as charged in the act will annually inform its eligible students by including in the Student Handbook, the Schedule of Courses, the UM-St. Louis Bulletin, and the Current (student newspaper) the following information:

1. "Education Records" are those records, files, documents, and other materials which contain information directly related to a student and are maintained by the university. Those records, made available under The Family Educational Rights and Privacy Act of 1974, are student financial aid, the student's cumulative advisement file, student health records, disciplinary records, admissions file, and academic record. Confidential letters and statements of recommendation which were placed in student credential folders at the Office of Career Placement Services after January 1, 1975, are also made available, if the student has not waived the right to view these recommendations.

The University of Missouri-St. Louis "Education Records" do not include:

- Records of instructional, supervisor, and administrative personnel and educational personnel ancillary thereto which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except a substitute.
- Records of the University of Missouri Police Department which were created for a law enforcement purpose and are maintained by the police department.
- In the case of persons who are employed by the university but who are not in attendance at the
university, records made and maintained in the normal course of business which related exclusively to such persons and that person's capacity as an employee where the records are not available for any other purpose.

- All records on any university student which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his professional or paraprofessional capacity, or assisting in that capacity, and which are created, maintained, or used only in connection with the provision of treatment to the student, and are not available to anyone other than persons providing such treatment, provided, however, that such records can be personally reviewed by a physician or other appropriate professional of the student's choice.

2. The University of Missouri-St. Louis recognizes "Directory Information/Public Information" to mean a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. All students must inform the Office of the Registrar before the end of the two-week period following the first day of classes that any or all of the information designated as directory information should not be released without the student's prior consent. The information listed above will become directory information or public information as of the first day of classes following the end of the two-week period in a regular semester and the first day of classes following the end of the one-week period during the summer session.

3. University of Missouri-St. Louis students have access to the educational records identified in Paragraph 1 above. In accordance with Public Law 93-380 as amended, the University of Missouri-St. Louis will not make available to students the following materials:

- Financial records of the parents of students or any information contained therein.
- Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, if such letters or statements are not used for the purpose other than those for which they were specifically intended.
- Confidential recommendations respecting admission to the university, application for employment and receipt of honor, or honorary recognition, where the student has signed a waiver of the student's rights of access as provided in 6.0404, the University Policy on Student Records.

4. The director of Financial Aid, the appropriate academic dean, the coordinator of the Student Health Service, the Vice Chancellor for Student Affairs, the Director of Career Placement Services, the Director of Admissions, and the Registrar are the officials responsible for the maintenance of each type of record listed in Paragraph 1.

5. Any student may, upon request, review his or her records and, if inaccurate information is included, may request the expunging of such information from the file. Such inaccurate information will then be expunged upon authorization of the official responsible for the file.

6. Students desiring to challenge the content of their record may request an opportunity for a hearing to challenge the content of the educational record in order to ensure that the record is not inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student, to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein, and to insert into such records a written explanation respecting the content of such records.

7. The university official charged with custody of the records will attempt to settle informally any disputes with any student regarding the content of the university's educational records through informal meetings and discussions with the student.

8. Upon request of the student or the university official charged with custody of the records of the student, a formal hearing shall be conducted as follows:

- The request for a hearing shall be submitted in writing to the campus chancellor who will appoint a hearing officer or a hearing committee to conduct the hearing.
- The hearing shall be conducted and decided within a reasonable period of time following the request for a hearing. The parties will be entitled to written notice 10 days prior to the time and place of the hearing.
- The hearing shall be conducted and the decision rendered by an appointed hearing official or officials who shall not have a direct interest in the outcome of the hearing.
- The student shall be afforded a full and fair opportunity to present evidence relevant to the hearing.
- The decision shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.
- Either party may appeal the decision of the hearing official or officials to the campus chancellor. Appeal from the Chancellor's decision is to the President. Appeal from the President is to the Board of Curators.

9. The University of Missouri-St. Louis will not mail grade reports to parents unless the student in question has completed the necessary authorization in the registrar's office.

10. The University of Missouri-St. Louis may permit access to or release of the educational records without the written consent of the student to the parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1954.

11. If any material or document in the educational record of a student includes information on more than one student, the student may inspect and review only such part
of such material or document as relates to him or her or to be informed of the specific information contained in such part of such material.

Provisions for Auxiliary Aids, Reasonable Accommodations, and other Services to Students with Disabilities

The University of Missouri is committed to equal educational opportunities for qualified students without regard to disabling condition. The university, therefore, will take necessary action to ensure that no qualified student with a disability is denied access to any particular course or educational program. Such action includes an assessment of the student's abilities and an evaluation of the requirements of the particular course or program.

If the university determines that some type of auxiliary aid is required, it will assist the qualified student with a disability in obtaining the necessary auxiliary aid from other sources. If the necessary auxiliary aid is not available from other sources, the university, at its option, will provide the necessary appropriate auxiliary aid.

Requests for the assessments must be made to the director of Disability Access Services no later than six weeks prior to the beginning of the next semester. If an unfavorable determination is made, the student may appeal the decision. See Discrimination Grievance Procedure, Appendix.

The university will make reasonable modifications to its academic requirements, if necessary to comply with legal requirements ensuring that such academic requirements do not discriminate or have the effect of discriminating on the basis of a student's known and adequately documented disability, unless the requested modification would require alteration of essential elements of the program or essential elements of directly related licensing requirements or would result in undue financial or administrative burdens.

The divisional dean's office, in cooperation with the director of Disability Access Services and the department through which the requirement is fulfilled, will determine the appropriate modification or substitution.

*See Executive Order 21, Policy Related to Students With Disabilities, in the Appendix section for further information.

Student Financial Aid Programs

The University of Missouri-St. Louis maintains an Office of Student Financial Aid to assist students with the cost of their education. Financial assistance is available in the form of grants, loans, scholarships, and work-study. Funds for these programs are available from federal, private, state, and institutional resources. To apply for financial aid, students must complete a Free Application for Federal Student Aid (FAFSA). Preference will be given to those students who have completed the FAFSA by April 1. Preference means that the Student Financial Aid Office will begin awarding FWS (Federal College Work-study), Federal SEOG (Federal Supplemental Educational Opportunity Grant) and Federal Perkins Loan funds. A completed financial aid application means that the Financial Aid Office has received an official Student Aid Report from the Federal Processing Center.

The Student Financial Aid Office maintains a Web site at www.umsl.edu/services/financialaid, where students will find useful information along with the ability to contact the office electronically via e-mail. Also included is a scholarship directory that is updated biweekly.

To be considered for all university scholarships offered through the Financial Aid Office, a student must be accepted for admission. A scholarship application must be completed to apply for scholarships awarded through Student Financial Aid. All incoming freshmen should complete the Incoming Freshman Scholarship Application. Continuing students should complete the Continuing Student Scholarship Application.

Students are encouraged to contact the department in which they are majoring for other possibilities for scholarships.

Undergraduate Study

This section includes admission, and academic policies for students seeking undergraduate degrees from the University of Missouri-St. Louis.

Admission and Application Procedures

Admission for First-Time Freshmen

The University of Missouri has a uniform policy for admission of freshman students to its four campuses. The procedure for regular admission from high school is based on high school class rank, performance on a standardized college aptitude test, and required high school units.

Admission Procedure. Students applying as first-time freshmen (i.e., students without previous college work) need to submit to the Director of Admissions four items:

Undergraduate Application for Admission.

Applications may be requested by calling the Office of Admissions at (314) 516-5451. Application is also available via the Internet. Applicants may apply on-line at http://www.umsl.edu.

Application Fee. A $25 ($40 for international students) check or money order made payable to the University of Missouri-St. Louis. Cash is acceptable if paid in person at the Office of the Registrar. Payment may be made by credit card via telephone (314) 516-6930.

High School Transcript and Class Rank. Transcript must be sent directly from the high school to the UM-St. Louis Office of Admissions. Transcript should indicate
class rank and all courses satisfactorily completed. ACT or SAT test scores may also be submitted via this transcript.

College Aptitude Test. Freshman admissions require that a test score be submitted for each applicant, from one of the following:

- American College Testing Program (ACT)
  These tests are administered at UM-St. Louis and at many other locations across the country. To request a test packet, call the Office of Admissions at (314) 516-5451.
- Scholastic Aptitude Test (SAT). Tests are administered at many locations across the country.

When to Apply. Qualified applicants are admitted and notified by letter of their admission in the order that completed applications are received. Applications are accepted after October 1 for the next fall semester on the basis of six or more high school semesters.

Admission Requirements. Any 1997 or later high school graduate is admissible with evidence indicating he or she meets both the following requirements:

- At least 17 units of credit (1 unit = 1 year in class) as follows:
  - English: 4 units. Two units emphasizing composition or writing skills. One of the remaining 2 units may be in speech or debate.
  - Mathematics: 4 units (Algebra 1 and higher).
  - Science: 3 units not including general science, one of the 3 units must be a laboratory course.
  - Social Studies: 3 units.
  - Fine Arts: 1 unit.
  - Foreign Language: 2 units. Must be 2 units of a single foreign language. (Math and foreign language units may be accepted from middle/junior high school)

In addition to the 17-unit requirement, each student will be evaluated on high school rank and test score (ACT or SAT). Students with a composite ACT score of 24 or SAT of 1100 will be admitted without regard to class rank. Class rank will be used to determine eligibility for admission when the student's ACT score is from 17 to 23 (SAT 800 to 1090).

If the ACT Composite score is 17 to 23 or the total of SAT Verbal and Math scores is 800 to 1090, the applicant must meet the following high school class rank requirement to be admitted automatically.

<table>
<thead>
<tr>
<th>ACT</th>
<th>SAT Total</th>
<th>High School Class</th>
<th>Percentile Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>1050-1090</td>
<td>17</td>
<td>48</td>
</tr>
<tr>
<td>22</td>
<td>1010-1040</td>
<td>18</td>
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<tr>
<td>21</td>
<td>970-1000</td>
<td>11</td>
<td>62</td>
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<tr>
<td>20</td>
<td>930-960</td>
<td>19</td>
<td>69</td>
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<tr>
<td>19</td>
<td>890-920</td>
<td>20</td>
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<tr>
<td>18</td>
<td>840-880</td>
<td>17</td>
<td>86</td>
</tr>
<tr>
<td>17</td>
<td>800-830</td>
<td></td>
<td>94</td>
</tr>
</tbody>
</table>

Applicants who do not meet these criteria may still be admitted, depending on other evidence of likely success and campus enrollment objectives. For additional information regarding admission requirements, contact the Office of Admissions at (314) 516-5451.

Applicants who do not meet these criteria may still be admitted. These applicants can apply to the Director of Admissions. Additional factors considered for admissions may include:

- Extracurricular activity
- Outstanding talent and/or abilities.
- College preparatory courses taken.
- Evidence of marked improvement over time in high school academic record.
- Significant work experience and/or family responsibilities.
- A personal statement to one or more of the above in student's own hand (in essay form).
- Recommendations by teachers, counselors or principals.

Acceptance. Upon graduation, students must submit a final high school transcript indicating their class rank and graduation date. First-time freshmen may be required to take a placement examination in mathematics.

Advanced Standing for Entering Freshmen. UM-St. Louis grants credit hours to entering freshmen who, through their performance on College Entrance Examination Board Advanced Placement Tests and faculty-administered tests, demonstrate proficiency in certain college-level courses, such as biology, chemistry, English, foreign languages, history, mathematics, political science, and physics. For further information and applications, write to College Board Placement Examinations, Box 592, Princeton, New Jersey 08540. The score-reporting institution code number for the University of Missouri-St. Louis is 6889. Test scores should be sent to the Director of Admissions. A brochure with detailed information is available in the Office of Admissions.

Dual Credit. Accredited programs such as the Advanced Credit Program at the University of Missouri-St. Louis enable qualified high school juniors and seniors the opportunity to earn college credits while completing high school. General education courses are offered through the
University in the College of Arts and Sciences and through the College of Fine Arts and Communication. Information about the transferability of credits from dual credit courses is available from the Office of Admissions, and further information about the Advanced Credit Program may be obtained by calling (314) 516-7005.

Dual High School/University Enrollment. Superior high school students may be admitted in a special student category to take one or more university courses during their junior or senior years of high school or during the summers. Students must submit a dual enrollment application and a high school counselor's or principal's recommendation. Students are admitted on the evidence of academic excellence. Admission is limited and governed by available space, and students must meet the prerequisites for the course or courses. Students should contact the College of Arts and Sciences at (314) 516-5501 for more information.

College Level Examination Program Applicants may earn advanced credit through the College Level Examination Program (CLEP). A maximum of 28 semester hours of credit may be earned. CLEP offers subject examinations for credit in specific areas. These examinations can be taken any time, provided the student has not taken a course in the test area. The student must earn a score at or above the 50th percentile to receive credit. Consultation with an advisor is recommended. CLEP tests are given by appointment in the university Assessment Center at. Call (314) 516-6396 for complete information.

Credit for Military Service. Credit may be allowed for service training programs conducted by the various Armed Forces branches. The American Council of Education recommendations in A Guide to the Evaluation of Educational Experiences in the Armed Services generally serve as a basis for granting such credit. To count toward a degree, the credit granted must be appropriate to the student's curriculum.

Trial Admission. Applicants who do not meet the regular admission standards may be admitted on a trial basis. Each student's academic record will be reviewed by the Director of Admissions and decisions will be made on a case-by-case basis.

High School Equivalency Applicants. Individuals may seek admission on the basis of passing the General Education Development (GED) tests. Applicants submitting GED scores are reviewed on an individual basis.

Home-Schooled Students. UM-St. Louis welcomes home-schooled students. The admission decision is largely based on the ACT/SAT test scores.

Veterans and Mature Adults. Applicant may be admitted as degree or non-degree-seeking students if they are veterans of the military service or over age 21 and have not previously earned college credit, have not been in school for several years, have not earned a high school diploma or passed the GED; or if they have a diploma but do not meet regular admission requirements from high school. Non-degree seeking students can become degree candidates on the basis of their performance in university course work.

Admission for Transfer Students
UM-St. Louis welcomes transfer students; however, students should be aware that actual requirements for degrees vary from institution to institution.

Students transferring from other colleges and universities must submit the following information to the Director of Admissions:
- Undergraduate Application for Admission
- A $25 application fee
- High school transcript, or GED if the applicant has less than 24 hours of college-level course work or the applicant is pursuing a degree or certification in Education.
- Official transcripts from all colleges/universities attended. Hand carried credentials are not accepted.

All credentials submitted for admission become the property of the university.

A transferring student who has completed fewer than 24 semester hours of college-level work must apply under the procedures for admission to the freshman class and must have at least a 2.0 overall grade point average (4.0 system) in all college-level courses attempted at previous institutions.

Suspended and Dismissed Transfer Students. Students under suspension or dismissal from another institution or whose previous record is of unsatisfactory quality may need to appeal to the Faculty Senate Committee on Admissions and Financial Aid.

Missouri State Transfer Agreement
CBHE Statement. Students transferring into UM-St. Louis and out of UM-St. Louis may use the Coordinating Board of Higher Education (CBHE) Articulation Agreement. The agreement outlines statewide undergraduate general education requirements which satisfy the general requirements for students transferring into UM-St. Louis and students transferring out of UM-St. Louis to other public higher education universities in the state.

The math proficiency requirements at UM-St. Louis that students must satisfy are not part of the general requirements covered by the CBHE requirement.
Transfer Credit. According to the articulation agreement among public institutions within the state of Missouri, the following guidelines will govern transfer of credit to UM-St. Louis from colleges and universities within the state of Missouri. These guidelines also apply to students transferring to UM-St. Louis from schools located outside Missouri. Advanced standing in the form of credit hours may be allowed for work satisfactorily completed in another college or university of recognized standing, public or private, located in the state of Missouri, as long as the work satisfies the requirements of the university division in which the student registers.

The academic record at a given institution will include all courses attempted. Grades of D or better earned in college-level work at an accredited or approved institution of higher education should receive full credit when transferred to UM-St. Louis. The university, however, will treat all grades on courses attempted on the same basis as that of a UM-St. Louis student. For example, if a UM-St. Louis student is required to repeat a specified course, having earned a D grade, a transfer student will also be required to repeat the same course if it carried a D grade.

Advanced Standing. Advanced standing includes credit by examination, such as Advanced Placement (AP), the College-Level Examination Program (CLEP), and Defense Activity for Non-Traditional Education Support (DANTES). It also includes credit by portfolio review (Bachelor of Fine Arts only). These lower-division credits may not apply at the senior level. For examination credit, students should submit appropriate transcripts to the Office of Admissions before their first semester at UM-St. Louis. Likewise, the Fine Arts department should be consulted for portfolio reviews. Early attention to these matters is essential to avoid unnecessary course work or repeats that can lead to loss of credit. If examinations are completed at a later date, transcripts should be submitted as soon as they are available.

Shortly after all official transcripts are on file, a student's previous academic record will be evaluated to determine which courses are applicable. Should there be any question concerning applicability of any courses, students should contact the Dean's office of their academic unit. Degree checks, determining whether courses meet a specific degree requirement and whether courses are accepted as a part of the student's academic major, are made in the office of the dean concerned.

Associate Degree Transfers from Community Colleges. A student admitted to the university and holding an associate degree oriented toward the baccalaureate degree will be accepted in junior standing. Students fulfilling the general education requirements outlined by the Missouri Coordinating Board of Higher Education and certified by the sending institution will have met the lower division general education requirements at UM-St. Louis. However, this does not exempt the student from meeting specialized lower-division degree requirements of specific departments. Courses completed in the associate degree program are evaluated for application to specific degree requirements by the same criteria used for transfer students from other colleges and universities. Credit earned in or transferred from a community college shall normally be limited to approximately half the baccalaureate degree program requirement.

Transfers without an Associate Degree. Transfer applicants who do not have an associate degree will have their transcripts evaluated on a course-by-course basis. Students who have fulfilled the general education requirements outlined by CBHE and certified by sending institution will meet the university's general education requirements.

Transfers Within the University of Missouri System. A student not in good standing at another campus of the University of Missouri (suspended or dismissed) must submit an appeal to the Senate Committee on Admissions and Student Financial Aid.

Any course that leads to an undergraduate degree on any campus of the University of Missouri shall be accepted in transfer toward the same degree on any campus of the university offering that degree. Grades, including D and F grades, and honor points earned in such courses will also transfer and will be included in the cumulative grade point averages. Unresolved problems related to transferability of credit may be appealed to the Dean of the College or his representative.

Students within the last 30 hours of graduation may take a limited number of courses at another campus in the UM system, provided the last 15 hours are taken at UM-St. Louis and the work is approved by their respective deans and departments.

Midwest Student Exchange. The Midwest Student Exchange Program is an initiative designed by the Midwestern Higher Education Commission to increase interstate educational opportunities for students in its member states. The program enables residents of Kansas, Michigan, Minnesota, Missouri, and Nebraska to enroll in the institutions and specified programs located outside their home state at reduced tuition levels.

Students from Other Countries. Prospective students living outside the United States and its possessions should write to the Office of International Student Services at the address below at least one year before the date of desired admission for information about application to the university. Students will be expected to supply official original secondary and college/university transcripts from all schools attended as well as other official original documents. International students must also pay a $40 application fee. All students should make arrangements to take the TOEFL well in advance of their admission date.
Since 1998, all students in F-1 and J-1 status have been required to purchase an inexpensive insurance policy with coverage for illness and accidents, billed directly to the students' accounts. For details contact:
Office of International Student Services
University of Missouri-St. Louis
304 SSB
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Former Students. Former students not currently enrolled should file a reenrollment application with the Director of Admissions. The Returning student application is available on line at http://www.umsl.edu/admission.

Visiting Students. Students who are attending another college or university who do not wish to earn a degree from the University of Missouri-St. Louis may register as visiting college students. Visiting student forms can be obtained from the Office of Admissions, the office of the Registrar or on-line at www.umsl.edu/admission/visiting/html. At the end of the session, students must request that their grades be reported by transcript to their respective schools.

Non-Degree-Seeking Students. An individual wishing to enroll in a course who is not seeking a degree may apply to the university as a non-degree-seeking student. No transcripts are required; however, the admission applies only for that particular semester. To attend for another semester, the student must reapply. Financial aid is not available for such students.

Registration

New Students
Upon admission to the university, students are notified that instructions will be sent by the Registrar's office before registration.

Former Students
Former students not currently enrolled must submit a reenrollment application to the Office of Admissions.

Currently Enrolled Students
Currently enrolled students are given the opportunity to preregister, by appointment, before all other students. Students wishing to preregister for the next semester in a different division or school must complete a Change of Division form.

Auditor
Students may enroll as auditors in any course with the prior consent of the instructor and dean of the school or college in which the auditors desire to be registered. They may be dropped from the course when in the judgment of the instructor and dean their record justifies such action.

Auditors are charged full fees and receive no academic credit.

After the close of the preregistration-by-appointment period, all newly admitted or readmitted students are eligible to register. Students wishing to register for more than a normal course load must obtain approval from their dean.

UM-St. Louis Express
UM-St. Louis Express provides Missouri's Senior Citizens (65 and older) easy access to undergraduate courses without limit on an audit (not for credit) space-available basis. Graduate courses are not available through this program. Students are subject to: non-refundable $25 registration fee, parking fee, and course related fees. Former UMSL Express students who reapply for the Program must again pay the registration fee. Students interested in attending as an UMSL Express student may obtain a registration form from the Office of Admissions. Students should complete and return the form with proof of age to the Office of Admissions on the day before classes are scheduled to begin or after.

Registration Cancellation
Students who have enrolled and paid their fees but do not wish to attend the university may cancel their registration any time before the first day of the semester. Cancellation forms may be obtained at the Office of the Registrar. For the refund schedule for cancellation of registration after class work begins, see the Schedule of Courses published each semester.

Enrollment and Academic Advising

Undergraduate students are admitted to the college, school, or professional school which offers the degree program which was declared on the student's application. Undeclared students, visiting students, and non-degree-seeking students are admitted to the College of Arts and Sciences. Students indicating a desire to pursue a degree in the evening hours are admitted to the Evening College.

The Advising Center, 225 Millennium Student Center, (314) 516-5300, provides advising for all undergraduate students, regardless of major. Undeclared students are encouraged to declare a major as soon as possible since it is important to determine what specific requirements must be satisfied to complete the baccalaureate program. Advisers in the Advising Center offer the following services to all undergraduate students: setting and planning academic goals, planning or changing a course schedule, withdrawing from school, placing a course on S/U status, petitioning for grade modification, applying for graduation, and making referrals as needed.
College of Arts and Sciences
All incoming undergraduate students are required to be advised in the University Advising Center in the Millennium Student Center. Students who have declared majors are encouraged to contact their major departments as soon as possible.

The 15 departments in the College of Arts and Sciences offer majors, minors, and certificates in the humanities, social sciences, mathematics and computer science, and the biological and physical sciences. Interdisciplinary programs are available in women's and gender studies, gerontology, labor studies, conservation biology, trauma studies, and more. The college also serves students with interests in the health sciences, pre-law, and pre-journalism. Information on these areas may be obtained in the Office of Undergraduate Student Affairs in the College of Arts and Sciences, 303 Lucas Hall.

Since there are specific requirements that each major must satisfy to complete a baccalaureate program, students are urged to declare their majors as soon as possible. This may be done at the time of application, or later in the Advising Center. Once a student declares a major, the department offering the degree will assign a faculty adviser and contact the student. The adviser, usually a faculty member in the student's area of interest, will assist in selecting suitable courses and advise the student in matters relating to degree requirements.

Students with specific concerns related to the specialized degree requirements of the college should consult with the academic departments responsible for their majors.

Questions regarding transfer credit as they relate to a specific degree may be directed to the appropriate department. Students may contact the Office of Undergraduate Student Affairs in the College of Arts and Sciences by phone at (314) 516-5501 for clarification on any academic issues related to the division or by e-mail artsscience@umsl.edu.

College of Business Administration
The College of Business Administration's office of academic advising has available a staff of professional academic advisers who provide assistance to students in planning their academic careers and in dealing with appropriate course selection, College of Business Administration requirements, general education requirements, evaluation of transfer credit, course prerequisites, school policy and regulations, and graduation requirements. Other matters related to a student's academic matriculation should also be directed to this office.

Prospective business students who are admitted to the Evening College should submit an official declaration of their major to that office. When they have completed 39 hours of credit, they will be assigned to the College of Business Administration for advisement.

University of Missouri-St. Louis
Undergraduate Study

Transfer students who have been admitted to the College of Business Administration should contact the advising office and plan to meet with an adviser early in the semester for an evaluation of transfer credit and the planning of their degree programs. All students are urged to make advising appointments early during each semester, prior to registration dates, to obtain approval of schedules for upcoming semesters. Advising is a continuous and ongoing process. For information, call (314) 516-5888.

College of Education
Students wishing to prepare for teaching careers should consider the following:

- Students who intend to teach in elementary, early childhood, middle school, special education, business education, or physical education settings must apply to the College of Education.
- Students who intend to teach in other secondary school classrooms may elect to apply for admission to the College of Education to pursue the Bachelor of Science in education degree (B.S.Ed.), or they may elect to earn a degree from another college or school at UM-St. Louis and take courses additionally to meet state teacher certification requirements.

With either option, pre- and post-degree students must meet university and departmental requirements, as well as those for teacher education in Missouri. Teacher education curricula vary considerably. Regardless of which option a student chooses, he or she must complete the formal application to the teacher education program. Careful planning of individual schedules is necessary to ensure selection of appropriate courses and to avoid extending programs. Students should therefore seek advisory help from the office of teacher education at the earliest opportunity. Regular consultation with advisers is essential. For information, call (314) 516-5937.

The office of teacher education provides assistance to all students interested in professional education programs and certification requirements. Questions about admission to the teacher education program, sequencing of courses, prerequisites, graduation requirements, and related matters should be directed to that office.

College of Fine Arts and Communication
The College of Fine Arts and Communication includes the Department of Art and Art History, Communication, Music and Theatre and Dance. These four departments offer eight degrees, both graduate and undergraduate. The College also serves students with interests in pre-architecture. The College of Fine Arts and Communication is further distinguished by its collaboration with the community. Endowed professorships link the University to the Saint Louis Symphony, The St. Louis Art Museum, Opera Theatre of St. Louis, and the Laumeier Sculpture Park to name a few.
Students and prospective students are encouraged to contact the department advising coordinators for the program of individual study. Students who maintain a relationship with their department have greater opportunities to meet other students with similar interests as well as optimize their student experience.

Barnes College of Nursing and Health Studies
The Barnes College of Nursing and Health Studies offers the bachelor of science in nursing degree (B.S.N.) for non-RNs through a four-year program of study. RNs who are graduates of diploma or associate degree nursing programs complete a junior-senior B.S.N. track (B.S.N. Completion), which avoids repeating previous nursing education. With both options, students must meet university and Barnes College of Nursing and Health Studies requirements. Careful planning is necessary to assure appropriate course sequencing. Students are strongly encouraged to develop a plan of study in conjunction with a nursing academic adviser to avoid extending the program of study.

Faculty maintain the right to make appropriate curriculum changes to comply with standards for accreditation as stipulated by the Commission on Collegiate Nursing Education and the Missouri State Board of Nursing’s minimum standards.

Pierre Laclede Honors College
Honors Scholars receive both academic advising and personal counseling from the college's administrative and teaching staff throughout their undergraduate careers. During the first two years, particular attention is given to the ways in which students fulfill their Honors College and university general education requirements and prepare themselves for their majors by taking the necessary prerequisites. After a major is declared, Honors College advisement with regard to work done for honors credit continues and is supplemented by major-related advising provided by the appropriate academic unit. The college identifies candidates for major graduate fellowships and assists them in preparing their dossiers. Similar assistance is given to scholars planning to go on to graduate and professional schools or seeking career opportunities immediately upon graduation.

Other Considerations
Assessment
The University of Missouri has been directed by the Board of Curators to implement a variety of studies designed to assess the outcomes of university education. To this end, two types of assessment are required of all students:

- A test of general educational development given to incoming freshmen and graduating seniors.
- A test or project, specified by the major department, given to graduating seniors.

Students who do not comply will not be allowed to graduate. As alumni, graduates are encouraged to participate in assessment by completing questionnaires sent to them by the university.

Academic Residence
Students must be in residence for at least 24 of the last 30 hours of graded credit (exclusive of courses graded on a satisfactory/unsatisfactory basis), except under unusual circumstances, to be decided by the dean.

Graduation
Students should file a degree application form with their respective dean's office at least one year before the expected graduation date. (Students in the College of Arts and Sciences or Fine Arts and Communication should file their degree applications in the University Advising Center.) The dean's office makes a final check to determine that all graduation requirements have been met. Students should check with the dean's office or an adviser to be sure their program fulfills the requirements of the department and college or school, as well as the university general requirements. To assure graduating at the end of a specific semester, all work for that semester and any delayed grades from previous semesters must be completed with the grades sent to the Office of Admissions no later than the official date for submission of final semester grades.

Course Schedules
Three times during the year, a Schedule of Courses is published, listing the specific courses offered that semester and their meeting times and locations. This Schedule is available as follows:

- Fall semester schedule: preceding March.
- Winter semester schedule: preceding October.
- Summer session schedule: preceding March.

The Schedule is also on the UM-St. Louis Web site: http://www.umsl.edu. The university reserves the right to cancel without notice any course listed in the Bulletin or the Schedule of Courses for any semester or to withdraw any course which does not have adequate enrollment.

General Education Requirements
Students must successfully complete the general requirements of the university, the school or college in which they are enrolled, and the specific requirements of their area of specialization. Described below are the general education requirements for all degrees.

The University of Missouri-St. Louis General Education Program was approved by the Faculty Senate April 23, 2002. This program affords both native and transfer students attending our university the opportunity to develop and use intellectual tools and to acquire a breath of knowledge necessary in our challenging, technological,
and diverse world. This program challenges students to investigate various disciplines as potential majors and to develop environments, and its prepares them for success in major fields of study. The program complies fully with the Missouri Coordinating Board of Higher Education Guidelines on Transfer and Articulation (June 2000).

GENERAL EDUCATION REQUIREMENTS
(Effective Fall, 2002)

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St. Louis 2001-2002 Bulletin. However, such students may elect to complete the new General Education Plan described below that became effective in the fall semester of 2002.

SKILL GOALS:
1. Communicating Skills (minimum 2 three-hour courses or 6 hrs) [C]
2. Managing Information Skills (min. 1 course or 3 hrs) [MI]
3. Valuing Skills (min. 1 course or 3 hrs) [V]

KNOWLEDGE GOALS:
4. Social and Behavioral Sciences Knowledge Goal (min. 3 three-hour courses or 9 hours minimum) [SS]
5. Humanities and Fine Arts Knowledge Goal (min. 3 three-hour courses or 9 hours minimum) [H]
6. Mathematics and Life/Natural Sciences Goal (min. 3 three-hour courses or 9 hours minimum) [MS]

Students may take only those courses listed below for the 42-hour General Education block. Many courses satisfy more than one goal, are designated as such, and may be counted for all of the goals listed for each specific course. Select courses that concentrate fully on a skill goal(s) but no knowledge goals have been marked with an asterisk, and it should be noted that those courses concentrate on the designated skill comprehensively.

Once students have met the required number of courses or hours under each goal, they may take any of the certified General Education courses listed under any of the goals to achieve the 42-hour program. This offers them the opportunity to use the General Education program to meet their individual needs and interests. Students may not take any upper-level courses or any lower-level courses that do not appear on the list of certified General Education courses to complete the 42-hour block.

Transfer students entering UM-St. Louis may transfer a CBHE approved 42-hour block of General Education courses, in accordance with the CBHE Transfer and Articulation agreement. However, those students transferring with fewer than 42 hours or from a non-participating institution will have their transcripts evaluated on a course-by-course basis.

The new General Education Program of the University of Missouri-St. Louis offers students an exciting and challenging program that develops the skills and knowledge necessary to succeed in today's changing world. The following information outlines each of the six goals and the courses that meet the competencies students must achieve to accomplish the designated skills and knowledge goals. The program also allows for individual choices in disciplines and skills to assist the students in their undergraduate endeavors at UM-St. Louis.

GENERAL EDUCATION GOALS AND COURSES

PLEASE NOTE:

* Course addresses skill goal(s) and no knowledge goals. The course covers the skill goal comprehensively and is suggested for those students who seek an in-depth coverage of that skill.

**Course will count for Cultural Diversity Graduation Requirement. (Honors students should check with Honors College each semester for list of Gen. Ed. Courses that meets this requirement)

***Course will count for State Government/History Requirement (Honors students should check with Honors College each semester for list of Gen. Ed. Courses that meets this requirement)

ALL COURSES ARE THREE-HOUR COURSES UNLESS OTHERWISE NOTED.

GOALS:

SKILL GOALS:
1. COMMUNICATING (min. 2 courses or 6 hrs)
2. MANAGING INFORMATION (min. 1 course or 3 hrs)
3. VALUING (min. 1 course or 3 hrs)

KNOWLEDGE GOALS:
4. SOCIAL AND BEHAVIORAL SCIENCES (min. 3 three-hour courses or 9 hrs)
5. HUMANITIES AND FINE ARTS (min. 3 three-hour courses or 9 hrs)
6. MATHEMATICS AND LIFE/NATURAL SCIENCES (min. 4 three-hour courses or 12 hrs)
GOAL # 1 COMMUNICATING SKILLS

The Communicating Skills Goal develops students' effective use of the English language and quantitative and other symbolic systems essential to their success in school and in the world. Students should be able to read and listen critically and to write and speak with thoughtfulness, clarity, coherence, and persuasiveness (CBHE General Education, June 2000).

Students must complete a minimum of two courses or six hours in the Communicating Skills area including a freshman composition course (English 010(1100), 011(1110) or Honors 010(1200)) and one other course taken from the following list:

* comprehensive coverage of skill goal
** satisfied cultural diversity requirement
*** satisfies state government requirement

<table>
<thead>
<tr>
<th>Department, Course #</th>
<th>Course Title</th>
<th>Additional Goal(s) of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 010(1100) or</td>
<td>Freshman Composition</td>
<td>2*</td>
</tr>
<tr>
<td>English 011(1110) or</td>
<td>Freshman Composition for International Students</td>
<td>2*</td>
</tr>
<tr>
<td>Honors 010(1200)</td>
<td>Freshman Composition for Honors Students</td>
<td>*</td>
</tr>
</tbody>
</table>

Select a minimum of one course:

- Communication 030(1030) Interpersonal Communication I
- Communication 040(1040) Introduction to Public Speaking
- Communication 050(1050) Introduction to Mass Media
- Biology 110(1811) Human Biology
- Chemistry 122(2223) Quantitative Analysis
- Chemistry 263(2633) (2 hrs) Organic Chemistry Laboratory
- English 103(2030) Poetry Writing
- English 104(2040) Short Story Writing
- English 105(2050) Play Writing
- English 112(2120) Topics in Writing
- English 012(1120) Literary Types
- English 120(2200) Classical Literature in Translation
- English 122(2810) Traditional Grammar
- English 123(2230) Jewish Literature
- English 124(2240) Literature of the New Testament
- English 125(2250) Literature of the Old Testament
- English 131(2310) English Literature I
- English 132(2320) English Literature II
- English 133(2330) Introduction to Poetry
- English 135(2350) Introduction to Fiction
- English 013(1130) Topics in Literature
- English 017(1170) American Literary Masterpieces
- English 171(2710) American Literature I
- English 172(2720) American Literature II
- English 020(1200) Myth
- English 070(1700) African-American Literature
- English 071(1710) Native American Literature
- French 170(2170) French Composition and Conversation
- French 180(2180) Readings in French
- German 170(2170) German Composition and Conversation
- German 180(2180) Readings in German
- History 003(1030) American Civilization to 1865
- History 004(1002) American Civilization 1865 to Present
- History 007(1004) The History of Women in the United States

(Set goal key above)
University of Missouri-St. Louis  
General Education Requirements

<table>
<thead>
<tr>
<th>Department, Course #</th>
<th>Course Title</th>
<th>Additional Goal(s) of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>History 071(1051)</td>
<td>Latin American Civilization</td>
<td>4**</td>
</tr>
<tr>
<td>History 072(1052)</td>
<td>Mexican Civilization</td>
<td>4**</td>
</tr>
<tr>
<td>History 081(1061)</td>
<td>African Civilization</td>
<td>4**</td>
</tr>
<tr>
<td>History 082(1062)</td>
<td>African Civilization</td>
<td>4**</td>
</tr>
<tr>
<td>History 083(1063)</td>
<td>African Diaspora</td>
<td>4**</td>
</tr>
<tr>
<td>History 084(1064)</td>
<td>African Diaspora</td>
<td>4**</td>
</tr>
<tr>
<td>History 030(1030)</td>
<td>The Ancient World</td>
<td>4</td>
</tr>
<tr>
<td>History 031(1031)</td>
<td>Topics in European Civilization to 1715</td>
<td>4</td>
</tr>
<tr>
<td>History 032(1032)</td>
<td>Topics in European Civilization since 1715</td>
<td>4</td>
</tr>
<tr>
<td>Honors 030(1300)</td>
<td>Honors Critical Analysis</td>
<td>5</td>
</tr>
<tr>
<td>Honors 111(1110)</td>
<td>Honors Western Traditions</td>
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</tr>
<tr>
<td>Honors 113(1130)</td>
<td>Honors Western Traditions</td>
<td>4</td>
</tr>
<tr>
<td>Honors 121(1210)</td>
<td>Honors American Traditions-Humanities</td>
<td>5</td>
</tr>
<tr>
<td>Honors 201(2010)</td>
<td>Honors Inquiries in the Humanities</td>
<td>5</td>
</tr>
<tr>
<td>Honors 202(2020)</td>
<td>Honors Inquiries in the Fine Arts</td>
<td>5</td>
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<tr>
<td>Honors 203(2030)</td>
<td>Honors Inquiries in the Social and Behavioral Sci.</td>
<td>4</td>
</tr>
<tr>
<td>Honors 205(2050)</td>
<td>Honors Inquiries in Natural Sciences</td>
<td>6</td>
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<tr>
<td>Honors 133(1330)</td>
<td>Honors Non-Western Traditions</td>
<td>4,3</td>
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<tr>
<td>Spanish 171(2171)</td>
<td>Spanish Conversation and Pronunciation</td>
<td>5</td>
</tr>
<tr>
<td>Spanish 172(2172)</td>
<td>Spanish Composition</td>
<td>5</td>
</tr>
<tr>
<td>Spanish 180(2180)</td>
<td>Readings in Spanish</td>
<td>5**</td>
</tr>
<tr>
<td>Theatre 021(1210)</td>
<td>Fundamentals of Acting</td>
<td>5</td>
</tr>
<tr>
<td>Theatre 080(1800)</td>
<td>Introduction to Theatre</td>
<td>5</td>
</tr>
</tbody>
</table>

GOAL # 2 MANAGING INFORMATION SKILLS

The Managing Information Skills Goal develops students' abilities to locate, organize, store, retrieve, evaluate, synthesize and annotate information from print, electronic, and other sources in preparation for solving problems and making informed decisions (CBHE General Education, June 2000).

Students must complete a minimum of one course or three hours in the Managing Information Skills area taken from the following list:

* comprehensive coverage of the skill goal  
** satisfies cultural diversity requirement  
*** satisfies state government requirement
University of Missouri-St. Louis
General Education Requirements

Crim & C J 020(1200)  Foundations of Law (Pol. Sci. 020(1200)  4,3
Economics 205(2800)  History of American Economic Development  4
Economics 262(2410)  The Economics of Women, Men and Work  4
English 010(1000)  Freshman Composition  1
English 011(1110)  Freshman Composition for International Students  1
Geography 101(1001)  Introduction to Geography  4
Geology 001(1001)  General Geology  6
Geology 002(1002)  Historical Geology  6
Honors 131(1310)  Non-Western Traditions  5**
Honors 020(1200)  Freshman Symposium  4
Physics 011(1011)  Basic Physics I  6
Physics 012(1012)  Basic Physics II  6
Physics 111(2111)  Physics: Mechanics and Heat  6
Physics 112(2112)  Physics: Electricity, Magnetism and Optics  6
Political Science 012(1500)  Introduction to Comparative Politics  4,3
Political Science 020(1200)  Foundations of Law (CCJ 20(1200)  4,3
Political Science 045(1450)  Introduction to Labor Studies  4
Political Science 080(1820)  Global Issues  4
Political Science 015(1550)  Women and Politics in the Developing World  4,3

GOAL # 3 VALUING SKILL
The Valuing Skills Goal develops students' abilities to understand the moral and ethical values of a diverse society and to understand that many courses of action are guided by value judgments about the way things ought to be. Students should be able to make informed decisions through identifying personal values and the values of others and through understanding how such values develop (CBHE General Education, June 2000).

Students must complete a minimum of one course or three hours in the Valuing Skills area taken from the following list:

**satisfies cultural diversity requirement
***satisfies state government requirement

<table>
<thead>
<tr>
<th>Department, Course #</th>
<th>Course Title</th>
<th>Additional Goal(s) of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology 011(1011)</td>
<td>Introduction to Cultural Anthropology</td>
<td>4**</td>
</tr>
<tr>
<td>Anthropology 025(1025)</td>
<td>World Cultures</td>
<td>4**</td>
</tr>
<tr>
<td>Biology 120(1002)</td>
<td>Environmental Biology</td>
<td>6,2</td>
</tr>
<tr>
<td>Biology 130(1081)</td>
<td>Global Ecology (Pol. Sci. 085(1850)</td>
<td>6,4</td>
</tr>
<tr>
<td>Crim &amp; C J 020(1200)</td>
<td>Foundations of Law (Pol. Sci. 020(1200)</td>
<td>4,2</td>
</tr>
<tr>
<td>Economics 40(1000)</td>
<td>Introduction to the American Economy</td>
<td>4</td>
</tr>
<tr>
<td>Economics 51(1001)</td>
<td>Principles of Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>Economics 110(2610)</td>
<td>The Economics of Professional Sports</td>
<td>4</td>
</tr>
<tr>
<td>English 012(1120)</td>
<td>Literary Types</td>
<td>5,1</td>
</tr>
<tr>
<td>English 120(2200)</td>
<td>Classical Literature in Translation</td>
<td>5,1</td>
</tr>
<tr>
<td>English 128(2280)</td>
<td>The Contemporary World in Literature</td>
<td>5**</td>
</tr>
<tr>
<td>English 134(2340)</td>
<td>Introduction to Drama</td>
<td>5</td>
</tr>
<tr>
<td>English 020(1200)</td>
<td>Myth</td>
<td>5,1</td>
</tr>
<tr>
<td>History 006(1003)</td>
<td>African-American History</td>
<td>4***</td>
</tr>
<tr>
<td>Honors 123(1230)</td>
<td>American Traditions</td>
<td>4***</td>
</tr>
<tr>
<td>Honors 133(1330)</td>
<td>Non-Western Traditions—Social Sciences</td>
<td>4,1</td>
</tr>
<tr>
<td>Music History 001(5990)</td>
<td>Introduction to Music</td>
<td>5</td>
</tr>
<tr>
<td>Music History 009(1080)</td>
<td>Non-Western Music</td>
<td>5**</td>
</tr>
<tr>
<td>Philosophy 010(1110)</td>
<td>Western Philosophy I</td>
<td>5</td>
</tr>
<tr>
<td>Philosophy 011(1111)</td>
<td>Western Philosophy II</td>
<td>5</td>
</tr>
</tbody>
</table>
General Education Requirements

Philosophy 120(1120)  Asian Philosophy  5**
Philosophy 125(1125)  Islamic Philosophy  5**
Philosophy 152(2252)  Philosophical Foundations of Criminal Justice  5
Philosophy 153(2253)  Philosophy and Feminism  5
Philosophy 154(2254)  Business Ethics  5
Philosophy 156(2256)  Bioethics  5
Philosophy 158(2258)  Medicine, Values and Society  5
Philosophy 180(2280)  Minds, Brains and Machines  5
Philosophy 030(1130)  Approaches to Ethics  5
Philosophy 050(1150)  Major Questions in Philosophy  5
Philosophy 060(1160)  Logic and Language  5
Philosophy 085(1185)  Philosophy of Religion  5
Philosophy 090(1090)  The Humanities through the Arts  5
Philosophy 091(1091)  Telecourse: Significant Figures in Philosophy  5
Political Science 011(1100)  Introduction to American Politics  4***
Political Science 012(1500)  Introduction to Comparative Politics  4,2
Political Science 020(1200)  Foundations of Law (CCJ 020(1200))  4,2
Political Science 085(1850)  Global Ecology (Bio. 130(1081))  4,6
Political Science 015(1550)  Women and Politics in the Developing World  4,2
Sociology 010(1010)  Introduction to Sociology  4
Sociology 040(1040)  Social Problems  4

GOAL # 4 SOCIAL AND BEHAVIORAL SCIENCES KNOWLEDGE

The Social and Behavioral Sciences Knowledge Goal develops students' understanding of themselves and the world around them through the study of content and the processes used by historians and social and behavioral scientists to discover, describe, explain, and predict human behavior and social systems. Students must understand the diversities and complexities of the cultural and social world, past and present, and come to an informed sense of self and others (CBHE General Education, June 2000).

Students must complete a minimum of three courses or nine hours in the Social and Behavioral Sciences Knowledge area taken from the following list:

**satisfies cultural diversity requirement
***satisfies government requirement

<table>
<thead>
<tr>
<th>Department, Course #</th>
<th>Course Title</th>
<th>Additional Goals of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology 011(1011)</td>
<td>Introduction to Cultural Anthropology</td>
<td>3**</td>
</tr>
<tr>
<td>Anthropology 019(1019)</td>
<td>Introduction to Archaeology</td>
<td>2**</td>
</tr>
<tr>
<td>Anthropology 025(1025)</td>
<td>World Cultures</td>
<td>3**</td>
</tr>
<tr>
<td>Anthropology 033(1033)</td>
<td>World Archaeology</td>
<td>2**</td>
</tr>
<tr>
<td>Biology 130(1081)</td>
<td>Global Ecology (Pol. Sci. 085(1850))</td>
<td>6,3</td>
</tr>
<tr>
<td>Communication 050(1050)</td>
<td>Introduction to Mass Media</td>
<td>1</td>
</tr>
<tr>
<td>Crim &amp; C J 020(1200)</td>
<td>Foundations of Law (Pol. Sci. 020(1200))</td>
<td>2,3</td>
</tr>
<tr>
<td>Economics 040(1000)</td>
<td>Introduction to the American Economy</td>
<td>3</td>
</tr>
<tr>
<td>Economics 051(1001)</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Economics 052(1002)</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Economics 110(2610)</td>
<td>The Economics of Professional Sports</td>
<td>3</td>
</tr>
<tr>
<td>Economics 205(2800)</td>
<td>History of American Economic Development</td>
<td>2</td>
</tr>
<tr>
<td>Economics 262(2410)</td>
<td>The Economics of Women, Men and Work</td>
<td>2</td>
</tr>
<tr>
<td>Geography 101(1001)</td>
<td>Introduction to Geography</td>
<td>2</td>
</tr>
<tr>
<td>History 003(1001)</td>
<td>American Civilization to 1865</td>
<td>1***</td>
</tr>
<tr>
<td>History 004(1002)</td>
<td>American Civilization 1865-Present</td>
<td>1***</td>
</tr>
<tr>
<td>History 006(1003)</td>
<td>African-American History</td>
<td>3***</td>
</tr>
<tr>
<td>History 007(1004)</td>
<td>The History of Women in the United States</td>
<td>1***</td>
</tr>
</tbody>
</table>
History 030(1030)  The Ancient World  1
History 031(1031)  Topics in European Civilization to 1715  1
History 032(1032)  Topics in European Civilization since 1715  1
History 061(1041)  East Asian Civilization to 1800  **
History 062(1042)  East Asian Civilization from 1800  **
History 071(1051)  Latin American Civilization  1**
History 072(1052)  Mexican Civilization  1**
History 081(1061)  African Civilization  1**
History 082(1062)  African Civilization  1**
History 083(1063)  African Diaspora  1**
History 084(1064)  African Diaspora  1**
Honors 020(1200)  Freshman Symposium  2
Honors 113(1130)  Western Traditions--Social Science  1
Honors 123(1230)  American Traditions  3***
Honors 203(2030)  Honors Inquiries in Social and Behavioral Sciences  1
Honors 133(1330)  Non-Western Traditions--Social Science  1,3
Political Science 011(1100)  Introduction to American Politics  3***
Political Science 012(1500)  Introduction to Comparative Politics  2,3
Political Science 015(1550)  Women and Politics in the Developing World  2,3
Political Science 020(1200)  Foundations of Law (CCJ 20(1200), Soc. 20)  2,3
Political Science 045  Introduction to Labor Studies  2
Political Science 080(1820)  Global Issues  2
Political Science 085(1850)  Global Ecology (Bio. 130(1081))  6,3
Political Science 099(1990)  The City (CCJ 099, Soc. 099(1999))  2,3
Political Science 015(1550)  Women and Politics in the Developing World  2,3
Psychology 003(1003)  General Psychology
Psychology 268(1268)  Human Growth and Behavior
Sociology 010(1010)  Introduction to Sociology  3
Sociology 040(1040)  Social Problems  3

GOAL # 5 HUMANITIES AND FINE ARTS KNOWLEDGE

The Humanities and Fine Arts Knowledge Goal develops the students' understanding of the ways in which humans have addressed their condition through imaginative work in the humanities and fine arts; to deepen their understanding of how that imaginative process is informed and limited by social, cultural, linguistic, and historical circumstances; and to appreciate the world of the creative imagination as a form of knowledge (CBHE General Education, June 2000).

Students must complete a minimum of three courses or nine hours from the Humanities and Fine Arts Knowledge area taken from the following list:

**satisfies cultural diversity requirement

<table>
<thead>
<tr>
<th>Department, Course #</th>
<th>Course Title</th>
<th>Additional Goals of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History 111(2211)</td>
<td>Art and Archeology of the Ancient World</td>
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<tr>
<td>Art History 117(1105)</td>
<td>African Art</td>
<td></td>
</tr>
<tr>
<td>Art History 135(2235)</td>
<td>European Art and Architecture 1300-1800</td>
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</tr>
<tr>
<td>Art History 155(2255)</td>
<td>Modern Art</td>
<td></td>
</tr>
<tr>
<td>Art History 005(1100)</td>
<td>Introduction to Art</td>
<td></td>
</tr>
<tr>
<td>Art History 008(1108)</td>
<td>Introduction to Asian Art</td>
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</tr>
<tr>
<td>English 103(2030)</td>
<td>Poetry Writing</td>
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</tr>
<tr>
<td>English 104(2040)</td>
<td>Short Story Writing</td>
<td></td>
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<tr>
<td>English 105(2050)</td>
<td>Play Writing</td>
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</tr>
<tr>
<td>English 112(2120)</td>
<td>Topics in Writing</td>
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</tr>
<tr>
<td>English 012(1120)</td>
<td>Literary Types</td>
<td>1,3</td>
</tr>
<tr>
<td>English 120(2200)</td>
<td>Classical Literature in Translation</td>
<td>1,3</td>
</tr>
<tr>
<td>English 123(2230)</td>
<td>Jewish Literature</td>
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<tr>
<td>English 124(2240)</td>
<td>Literature of the New Testament</td>
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</tbody>
</table>
English 125(2250)  Literature of the Old Testament  1
English 128(2280)  The Contemporary World in Literature  3**
English 013(1130)  Topics in Literature  1
English 131(2310)  English Literature I  1
English 132(2320)  English Literature II  1
English 133(2330)  Introduction to Poetry  1
English 134(2340)  Introduction to Drama  3
English 017(1170)  American Literary Masterpieces  1
English 171(2710)  American Literature I  1
English 172(2720)  American Literature II  1
English 020(1200)  Myth  1,3
English 070(1700)  African-American Literature  1
English 071(1710)  Native American Literature  1**
French 170(2170)  French Conversation and Composition  1
French 180(2180)  Readings in French  1**
German 170(2170)  German Conversation and Composition  1
German 180(2180)  Readings in German  1**
Honors 131(1310)  Non-Western Traditions in Humanities  2**
Honors 030(1300)  Critical Analysis  1
Honors 111(1110)  Western Traditions  1
Honors 121(1210)  American Traditions in Humanities  1
Honors 201(2010)  Inquiries in the Humanities  1
Honors 202(2020)  Inquiries in the Fine and Performing Arts  1
Music History 001(5990)  Introduction to Music  3
Music History 006(1002)  Introduction to African-American Music
Music History 007(1060)  Introduction to Jazz History
Music History 009(1080)  Non-Western Music  3**
Philosophy 010(1110)  Western Philosophy I  3
Philosophy 011(1111)  Western Philosophy II  3
Philosophy 120(1120)  Asian Philosophy  3**
Philosophy 125(1125)  Islamic Philosophy  3**
Philosophy 152(2252)  Philosophical Foundations in Criminal Justice  3
Philosophy 153(2253)  Philosophy and Feminism  3
Philosophy 154(2254)  Business Ethics  3
Philosophy 156(2256)  Bioethics  3
Philosophy 158(2258)  Medicine, Values and Society  3
Philosophy 180(2280)  Minds, Brains and Machines  3
Philosophy 030(1130)  Approaches to Ethics  3
Philosophy 050(1150)  Major Questions in Philosophy  3
Philosophy 060(1160)  Logic and Language  3
Philosophy 085(1185)  Philosophy of Religion  3
Philosophy 090(1090)  The Humanities through the Arts  3
Philosophy 091(1091)  Telecourse: Significant Figures in Philosophy  3
Spanish 171(2171)  Spanish Conversation and Pronunciation  1
Spanish 172 (2172)  Spanish Composition  1
Spanish 180(2180)  Readings in Spanish  1**
Theatre 021(1210)  Fundamentals of Acting  1
Theatre 080(1800)  Introduction to Theatre  1

GOAL # 6 MATHEMATICS AND LIFE/NATURAL SCIENCES KNOWLEDGE
The Mathematics and Life/Natural Sciences Knowledge Goal develops students' abilities in the areas of mathematics and sciences. In mathematics, the goal develops the students’ understanding of fundamental mathematical concepts and their applications. Students should develop a level of quantitative literacy that would enable them to make decisions and solve problems and which could serve as a basis for continued learning. To meet this goal, students must have one mathematics course that has the same prerequisite(s) and level of rigor as college algebra. In the life and natural sciences, this goal develops the students' understanding of the principles and laboratory procedures of life and physical sciences and to cultivate their abilities to apply the empirical methods of scientific inquiry. Students should understand how scientific discovery changes theoretical views of the world, informs our imaginations, and shapes
human history. Students should also understand that science is shaped by historical and social contexts (CBHE General Education, June 2000).

Note: All students are required to earn a C- or better in a college-credit mathematics course having at least intermediate algebra as a prerequisite (Math 20(1030) or higher meets this requirement at UM-St. Louis), or achieve a score of 26 or higher on the Missouri Math Placement Test. Students should check the current schedule of courses for more details regarding math proficiency and placement.

Students must complete a minimum of four courses or twelve hours in the Mathematics and Life/Natural Sciences Knowledge area:

<table>
<thead>
<tr>
<th>Department, Course #</th>
<th>Course Title</th>
<th>Additional Goal(s) of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 020(1020)</td>
<td>Contemporary Mathematics</td>
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</tr>
<tr>
<td>Mathematics 030 (1030)</td>
<td>College Algebra</td>
<td></td>
</tr>
<tr>
<td>Mathematics 035(1035) (2 hrs)</td>
<td>Trigonometry</td>
<td></td>
</tr>
<tr>
<td>Mathematics 080(1800) (5 hrs)</td>
<td>Analytic Geometry and Calculus I</td>
<td></td>
</tr>
<tr>
<td>Mathematics 100(1100)</td>
<td>Basic Calculus</td>
<td></td>
</tr>
<tr>
<td>Mathematics 105 (1105)</td>
<td>Basic Probability and Statistics</td>
<td></td>
</tr>
<tr>
<td>Honors 204(2040)</td>
<td>Inquiries in Math and Computer Science</td>
<td></td>
</tr>
<tr>
<td>Astronomy 001(1001)(4 hrs)</td>
<td>Cosmic Evolution/Introductory Astronomy</td>
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</tr>
<tr>
<td>Astronomy 011(1011)</td>
<td>Planets and Life in the Universe</td>
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</tr>
<tr>
<td>Astronomy 012(1012)</td>
<td>The Violent Universe and the New Astronomy</td>
<td></td>
</tr>
<tr>
<td>Astronomy 022(1022) (2 hrs)</td>
<td>Practical Astronomy</td>
<td></td>
</tr>
<tr>
<td>Astronomy 050(1050)</td>
<td>Introduction to Astronomy I</td>
<td></td>
</tr>
<tr>
<td>Astronomy 051(1051)</td>
<td>Introduction to Astronomy II</td>
<td></td>
</tr>
<tr>
<td>Astronomy 121(1121)</td>
<td>The Search for Extraterrestrial Life</td>
<td></td>
</tr>
<tr>
<td>Atmospheric Science 001(1001)(4 hrs)</td>
<td>Elementary Meteorology</td>
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</tr>
<tr>
<td>Biology 001(1012)</td>
<td>General Biology</td>
<td></td>
</tr>
<tr>
<td>Biology 003(1013) (2 hrs)</td>
<td>General Biology Laboratory</td>
<td></td>
</tr>
<tr>
<td>Biology 011(1811)(5 hrs)</td>
<td>Introductory Biology I</td>
<td></td>
</tr>
<tr>
<td>Biology 012(1821) (5 hrs)</td>
<td>Introductory Biology II</td>
<td></td>
</tr>
<tr>
<td>Biology 110(1102)</td>
<td>Human Biology</td>
<td></td>
</tr>
<tr>
<td>Biology 113 (1131)</td>
<td>Human Anatomy and Physiology I</td>
<td></td>
</tr>
<tr>
<td>Biology 114 (1141)</td>
<td>Human Anatomy and Physiology II</td>
<td></td>
</tr>
<tr>
<td>Biology 116 (1162)</td>
<td>General Microbiology</td>
<td></td>
</tr>
<tr>
<td>Biology 120(1202)</td>
<td>Environmental Biology</td>
<td></td>
</tr>
<tr>
<td>Biology 130(1081)</td>
<td>Global Ecology (Pol. Sci. 85(1850))</td>
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<tr>
<td>Chemistry 001(1082)</td>
<td>General Chemistry I</td>
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<tr>
<td>Chemistry 005(1052) (4 hrs)</td>
<td>Chemistry for Health Professions</td>
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</tr>
<tr>
<td>Chemistry 006(1062) (2 hrs)</td>
<td>Organic and Biochemistry for Health Professions</td>
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<tr>
<td>Chemistry 009(1091)</td>
<td>General Chemistry II</td>
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</tr>
<tr>
<td>Chemistry 010(1011)</td>
<td>Chemistry in the Environment and Everyday Living</td>
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<tr>
<td>Chemistry 011(1111) (5 hrs)</td>
<td>Introductory Chemistry I</td>
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</tr>
<tr>
<td>Chemistry 012(1121) (5 hrs)</td>
<td>Introductory Chemistry II</td>
<td></td>
</tr>
<tr>
<td>Chemistry 122(2223)</td>
<td>Quantitative Analysis</td>
<td></td>
</tr>
<tr>
<td>Chemistry 241(2412) (2 hrs)</td>
<td>Basic Inorganic Chemistry</td>
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</tr>
<tr>
<td>Chemistry 261(2612)</td>
<td>Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>Chemistry 262(2622)</td>
<td>Organic Chemistry II</td>
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<tr>
<td>Chemistry 263(2633) (2 hrs)</td>
<td>Organic Chemistry Laboratory</td>
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<tr>
<td>Geology 001(1001) (4 hrs)</td>
<td>General Geology</td>
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<tr>
<td>Geology 002(1002) (4 hrs)</td>
<td>Historical Geology</td>
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<tr>
<td>Honors 205(2050)</td>
<td>Inquiries in the Natural Sciences</td>
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<tr>
<td>Physics 001(1001)</td>
<td>How Things Work</td>
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<tr>
<td>Physics 011(1011) (4 hrs)</td>
<td>Basic Physics I</td>
<td></td>
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<tr>
<td>Physics 012(1012) (4 hrs)</td>
<td>Basic Physics II</td>
<td></td>
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<tr>
<td>Physics 111(2111)(5 hrs)</td>
<td>Physics: Mechanics and Heat</td>
<td></td>
</tr>
<tr>
<td>Physics 112(2112) (5 hrs)</td>
<td>Physics: Electricity, Magnetism and Optics</td>
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Credit Hours
All candidates for baccalaureate degrees must complete a minimum of 120 semester hours. At least 45 of these hours must be courses numbered 100 or above (or comparable courses transferred). Students must maintain a minimum 2.0 grade point average overall, as well as in their area of specialization. Students seeking two degrees must meet all degree and residency requirements of each degree.

Other Requirements

Mathematical Skills:
Proficiency in the basic mathematical skills area should be satisfied before the student completes 24 hours of course work by demonstrating either: a grade of C- or better in a college credit mathematics course having at least intermediate algebra as a prerequisite. (Students can satisfy the prerequisite for enrolling in Math 20(1020) or Math 30(1030) by either a 22 or higher on the ACT Math subtest, 14 or higher on the UM-St. Louis Math Placement Test, or successful completion of Mathematics Workshop 2.)

OR
A score of 26 or higher on the Missouri Math Placement Test. This test covers mathematics through the college algebra level. Study guides for the Missouri Math Placement Test, the UM-St. Louis Math Placement Test, and the Trigonometry Test (not needed for minimum math proficiency) are available on the University’s home page, under “math placement” information/math practice test and at the circulation desks of the Thomas Jefferson Library (file number 991). Students will need to make copies to keep. Math placement tests may be taken twice at most. Test dates are published in the Schedule of Courses.

Advanced Expository Writing
Effective fall semester 1985, students must also complete English 210(3100), Advanced Expository Writing, or its equivalent, with a grade of C- or above.

American History and Government: Students must satisfactorily complete a course or courses in American history or government taken at UM-St. Louis or at other colleges or universities in Missouri. Transfer students should check with the dean’s office of their division to find out if they have fulfilled this requirement.

The requirement may be satisfied by one of the following courses:

CCJ 10(1100), Introduction to Criminology and Criminal Justice
CCJ 226(2226), Law and the Individual
Hist 3(1001), American Civilization I
Hist 4(1002), American Civilization II
Hist 6(1003), African-American History
Hist 7(1004), The History of Women in the United States
Hist 207(2007), The History of Missouri

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Hist 302(3002), United States History: Revolution and the New Nation, 1763 to 1815
Hist 311(3041), Topics in American Constitutional History
PolSci 11(1100), Introduction to American Politics
PolSci 129(2290), Women and the Law
PolSci 130(2300), State Politics
PolSci 135(2350), Introduction to Urban Politics
PolSci 140(2400), Public Administration
PolSci 226(2260), Law and the Individual
PolSci 228(2280), Judicial Politics, Process and Policy
PolSci 230(3300), The American Presidency
PolSci 231(3331), Congressional Politics
PolSci 232(2320), African-Americans and the Political System

Cultural Diversity Requirement.
To expand cultural awareness, students in some academic units may be required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or a comparable culture. Courses that satisfy this requirement involve substantial material independent of the cultures' interactions with European cultures. If a course focuses on one facet of a culture, it must treat the topic within the context of the culture as a whole. These courses are also coded with the initials [CD] for Cultural Diversity This requirement may be met by one of the following courses:

Anth 11(1011), Introduction to Cultural Anthropology
Anth 19(1019), Introduction to Archaeology
Anth 21(1021), The Body in Culture
Anth 25(1025), World Cultures
Anth 29(1029), Cultural Diversity through Literature
Anth 33(1033), World Archaeology
Anth 41(1041), Sex and Gender Across Cultures
Anth 71(1171), Native American Literature
Anth 91(1091), Introductory Topics in Anthropology
Anth 110(2110), Cultures of Asia
Anth 111(2111), Cultures of East Asia
Anth 113(2113), Cultures of South Asia
Anth 114(2114), Cultures of the Near and Middle East
Anth 120(2120), Native Peoples of North America
Anth 123(2123), Cultures of Oceania
Anth 124(2124), Cultures of Africa
Anth 131(2131), Archaeology of Missouri
Anth 132(2132), Archaeology of North America
Anth 134(2134), Archaeology of the Inca, Aztec, and Maya
Anthem 135(2135), Old World Archeology
Anthem 136(2136), Archaeology of East Asia
Anthem 137(2137), Archaeology of Africa
Anthem 138(2138), African-American Archaeology
Anthem 173(2173), Archaeology and Cultures of the Biblical World
Anthem 191(2191), Special Topics in Non-Western Cultures
Anthem 225(3225), Topics in Tribal Arts
Anthem 235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective
Anthem 238(3238), Culture and Business in East Asia
Anthem 428(5428), Culture and Business in East Asia
Art 8(1108), Introduction to Asian Art
Art 15(1102), Art of Africa, Oceania, and the Americas
Art 107(1109), The Arts of China
Art 108(1110), The Arts of Japan
Art 116(1104), North American Indian Art
Art 117(1105), African Art
Art 119(1103), Pre-Columbian Art of Mexico and Central America
Art 208(4408), Topics in Asian Art
Art 215(4402), Topics in African Art
English 71(1710), Native American Literature
English 128(2280), The Contemporary World in Literature
History 61(1041), East Asian Civilization
History 62(1042), East Asian Civilization
History 71(1051), Latin American Civilization
History 72(1052), Mexican Civilization
History 81(1061), African Civilization To 1800
History 82(1062), African Civilization Since 1800
History 83(1063), The African Diaspora to 1800
History 84(1064), The African Diaspora since 1800
History 201(3032), History of Women in Comparative Cultures
History 262(3103), Modern History of the Pacific Rim
History 361(3101), Modern Japan: 1850 to the present
History 362(3102), Modern China: 1800 to the Present
History 371(3201), History of Latin America: To 1808
History 372(3202), History of Latin America since 1808
History 380(3301), West Africa to 1800
History 381(3302), West Africa since 1800
History 385(3303), African Diaspora to 1800
History 386(3304), African Diaspora since 1800
Music 9(1080), Non-Western Music I
Music 10(1090), Non-Western Music II
Phil 120(1120), Asian Philosophy
Phil 125(1125), Islamic Philosophy
PolSci 155(2250), East Asian Politics
PolSci 253(2530), Political Systems of South America
PolSci 254(2540), Political Systems of Mexico, Central America, and the Caribbean
PolSci 258(2580), African Politics
PolSci 289(2520), Middle Eastern Politics
Soc 245(3245), Sociology of South Africa

Bachelor of General Studies degree program with the dean's approval:
• Sec Ed 162(2162), Computer Keyboarding and Formatting
• Sec Ed 362(4362), Shorthand/Alpha Systems: Theory and Application

Social Education Courses
Courses in ROTC do not receive Arts and Sciences credit, nor are they counted in the student's grade point average.

Video Instructional Program
The Video Instructional Program offers flexible learning for students who are far from campus or whose schedules make it difficult to attend regular classes. Textbooks and study materials accompany the video lessons for each course and are available through the bookstore. A list of offered courses is found elsewhere in this Bulletin and new course offerings are being developed.

Academic Policies

Course Numbering
Each course bears a distinguishing number which identifies it within the department or academic unit and indicates, broadly, its rank. The University has adopted a new 4-digit numbering system that will be phased in. The primary course number in this bulletin will be a 3-digit number; in parenthesis, the new 4-digit number will be shown.

To assist in understanding the course level, refer to the following guidelines:
• 1-99(0001-0999) course is not awarded credit towards a baccalaureate degree.
• 100-199(1000-1999) course is primarily for freshmen, but may be taken by sophomores, juniors and/or seniors
• 200-299(2000-2999) course is primarily for sophomores, but may be taken by juniors and/or seniors. Can not be taken for graduate credit
• 300-399(3000-3999) course is open to junior and senior students.
• 400-499(4000-4999) course is open to senior and/or graduate students (so long as a graduate program provides for the inclusion of a designated number of undergraduate hours.)
• 500-599(5000-5999), course open to graduate students and undergraduate students with permission.
• 600-699(6000-6999) course open to graduate students only.
• 700-799(7000-7999) course open to graduate students in doctoral programs.
• 800-899(8000-8999) course open to students in the College of Optometry.
Credit Hours
The university credit unit is the semester hour, which represents a subject pursued one period weekly for one semester of approximately 16 weeks or for a total of approximately 16 periods for one term. Generally, a course valued at 3 semester hours meets for three periods weekly for one semester, a 2-credit course two periods a week for a semester, and so on. Normally, the lecture or recitation period is 50 minutes long and the laboratory period one hour and 50 minutes.

The number of credit hours is in parentheses after each course title. If the credit is variable, to be fixed in consultation with the instructor, it is shown by (credit arranged) or by minimum and maximum credit, such as research (2-8).

Grading System
The grading system available to all faculty in all schools, colleges, and other parallel units at UM-St. Louis consists of:

- A = 4.0
- A- = 3.7
- B+ = 3.3
- B = 3.0
- B- = 2.7
- C+ = 2.3
- C = 2.0
- C- = 1.7
- D+ = 1.3
- D = 1.0
- D- = 0.7
- F = 0
- EX = Excused
- DL = Delayed
- Y = No basis for a grade

Faculty have full discretion in using full-letter grades, plus/minus grades, or any combination of full-letter and plus/minus grades. The student’s grade point average is computed by dividing the total quality points (number of credit hours for a course, multiplied by the grade value received) by the number of hours taken (excluding grade modified hours).

Three options offer students convenient ways to obtain their final grades at the end of each semester. Unless a specific request is made through the Registrar’s Office, the University of Missouri system does not distribute grade reports to students via postal mail. Final course grades can be obtained electronically by any of the following three methods:

To access your grades through the My Gateway system, you must know your Gateway ID and password. You can look up your Gateway ID online at: http://gatewayid.umsl.edu. Call the Technology Support Center at (314) 516-6034 if you have any questions about your Gateway ID or password.

To access your grades through STAR or TRAIN you must know your student number and personal identification number (PIN). If you need assistance with your PIN, you should come to the Office of the Registrar, at 269 Millennium Student Center with photo identification. For security reasons, you cannot obtain or change your PIN over the telephone.

A printed copy of your grade report can be sent to you upon request at no charge. Once requested by you, your grade report will be mailed to your official address of record. Requests may be made by phone, mail, e-mail, fax, or in person.

Education majors. Professional education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Delayed Grade. A student whose work is incomplete at the end of any semester and who has, in the instructor’s judgment, sufficient reasons for failing to complete the work, may, with the approval of the instructor and department chairperson, be assigned a delayed grade. Such work must be made up no later than one semester after the incomplete grade is given, or the grade automatically becomes F. The dean may, in unusual circumstances, extend this time limitation (summer session is not counted as a semester). Notice of change in a delayed grade shall be given to the registrar on a special form.

Y Grade. When, in the instructor’s judgment, there is no basis for evaluating the work of a student who does not officially drop a course or officially withdraw from the university, a mark of Y (unauthorized withdrawal—no basis for evaluation) is given.

Examinations. Examinations may be given only at regular class meeting times or as designated by the Senate Committee on Curriculum and Instruction.

Satisfactory/Unsatisfactory Option. Undergraduate students may take up to 18 credit hours on a satisfactory/unsatisfactory (S/U) grading basis. This includes courses taken as electives or those which satisfy the general education requirements. Most courses required for a specific degree may not be taken on a satisfactory/unsatisfactory basis. Academic departments may designate other courses within their jurisdiction which may not be taken under the option.

A satisfactory grade “S” is recorded when an instructor assigns the grade of A, A-, B+, B-, C+, or C-, and has no numerical value in computing one’s cumulative grade point average; however, it does satisfy credit-hour graduation requirements. An unsatisfactory grade - - U -- is recorded when an instructor assigns the grades of D+, D, D-, or F, and has no numerical value in computing one’s cumulative grade point average, nor does it satisfy any credit-hour graduation requirements. Grades will be recorded on transcripts as S or U.

Students register for courses in the normal manner and may exercise the satisfactory/unsatisfactory option before the end of the first four weeks of a regular semester (or the first two weeks of a summer session). Requests for this option are made through the proper dean’s office.
Instructors are not informed of students taking courses on a satisfactory/unsatisfactory basis.

**Repeating Courses.** Students may not repeat for grade point average or credit hour purposes courses in which grades of A, A-, B+, B, B-, C+, C, or C- have been earned. All grades earned will affect the calculation of one's cumulative grade point average; the course hours, however, will be counted only once in calculating hours towards one's degree. (See Grade Modification.)

**Grade Modification.** When the grade received in an initial attempt in a course at UM-St. Louis is a D+, D, D-, or F, the grade may be replaced in the calculation of the GPA by the grade received in a second or subsequent attempt of the same course at UM-St. Louis. All grades received in second and subsequent attempts will be included in GPA calculations. A maximum of 15 hours may be dropped from the calculation of the student's GPA. All attempts of a given course will appear on the official transcript with the grade(s) earned. The transcript will have an explanation which states that the GPA is calculated using all grades earned in a course except the initial attempt when a course has been repeated and grade modified.

Note: Grade modification is not automatic. After completing the second or subsequent attempt of the course to be modified, students must process the necessary paperwork with an academic adviser in the academic unit in which the student is currently enrolled.

**Transcripts**

The registrar will furnish transcripts to a student upon written request. Transcripts are furnished to students' parents or guardians or other parties or institutions only if students have filed written consent with the Registrar's office. There is a charge for each transcript. Requests for transcripts by organizations either financially supporting a student or with fee compensation programs are not honored unless the student has filed a consent form with the Registrar's Office authorizing the release of such information.

Transcripts are not issued to or for students who have financial obligations to the university until those obligations are paid in full.

**Enrollment Policies**

**Prerequisites for a Course**
A minimum grade of C- is required to meet the prerequisite requirements of any course, except with the permission of the department in which the second course is taught. An "academic standing" prerequisite stated by class—for example, "senior standing"—means senior-class standing. Requirements for class standing vary. Students should determine the requirements for their school or college. Individual course restrictions are specified in the individual course descriptions.

**Course Load**
A normal full-time semester work load is 15 hours. Six hours is normal for the summer session. Minimum full-time enrollment is 12 hours. Students who have demonstrated the ability to carry more than 17 hours successfully may enroll for additional hours with the approval of their dean.

**Attendance**
Students are expected to attend class regularly, and, in accordance with the UM-St. Louis Bylaws, faculty may establish penalties for excessive absences. Students absent for more than three successive classes may be reported to the dean. Students should tell their divisional dean's office of an extended absence. An absence known in advance should be reported to the instructors of courses that will be missed. Makeup of examinations or work missed is allowed at the instructor's discretion. Students excused from class for valid reasons by their deans shall be permitted, if possible, to make up work missed; the dean must have notified the instructor in writing.

**Dropping/Adding Courses**
To add courses to their original enrollment, students must get approval from their advisers. Students may not enter courses after the first week of a regular semester or the first three days of the summer session. Courses may be dropped, without approval, through the fourth week of a regular semester and the second week of a summer session. Students may withdraw from courses without a grade up to the end of the fourth week of a regular semester and the second week of the summer session.

From the fifth through the twelfth weeks of the fall or winter semesters (for summer session, the third through the sixth weeks), students may withdraw from a course with an "Excused" grade, providing they are passing the course and receive the approval of their instructor, adviser, and dean's office representative. Otherwise, a failing grade is given. Students not attending classes who fail to drop officially receive F or Y grades. After the allowable period, "Excused" grades are given only in exceptional instances where the instructor's approval and dean's approval are given. These grades are recorded on the students' official records at the end of the term. If an F grade is recorded, it is counted in computing the grade point average. No partial credit is granted to students who withdraw from a course during any semester or otherwise fail to complete the work required for full course credit.

**Section Changing**
Section changing is normally done during the first week of a regular semester and the first three days of a summer session. No approvals need be received during this time. However, after the first week of a regular semester and the first three days of a summer session, a section change form...
must be obtained from the departmental or dean's office. The signatures of both instructors (of both sections) are required. The form is to be submitted to the Registration Office, 269 Millennium Student Center.

Change of Major
To change academic majors, students should consult their adviser and the dean's office. Students admitted to one college or school may pursue work in others under the conditions set forth by the other division's faculty. The chairperson of a student's major department shall determine which courses in other colleges or schools, or even other institutions, shall apply as credit toward the degree.

Withdrawal after Classes Begin
After classes begin, students may withdraw from the university by completing the withdrawal form, available in the dean's office. During the first four weeks of a regular semester and the first two weeks of a summer session, students may withdraw from the university without receiving grades. After this period, grades of F or "Excused" are issued, based on whether the student is passing or failing. After the regular semester's twelfth week (or the sixth week in the summer session), "Excused" grades are given only in exceptional instances with the instructor's and the dean's approvals.

These grades are recorded on the student's official record at the end of the term. An F grade is counted in computing the grade point average. No partial credit is granted to students who withdraw from school during any semester or otherwise fail to complete the work required for full course credit. Students who stop attending classes without withdrawing officially from the university are issued an F or a Y grade. Any F grades are counted in computing grade point averages.

Academic Probation, Suspension, and Dismissal
A student may be placed on academic probation any time that his or her cumulative GPA falls below 2.00. Students should consult college or school advisers in their respective dean's office for additional information.

Students may be suspended if they do not pass more than two-thirds of their work, their semester grade point average is below 1.5, or their cumulative grade point average falls below 1.75. Students may be suspended if they have been on scholastic probation for two or more semesters, not necessarily consecutive, and again become subject to probation. The dean may retain students on probation rather than suspend them if circumstances justify such action.

Students who have once been suspended may be dismissed if they again become subject to suspension. Students placed on probation because of poor scholastic records at other institutions are regarded as having been once suspended under these rules. Normally, students who have been dismissed are not considered for readmission. In certain unusual cases, students may be readmitted on probationary status after one year.

Students admitted on probation to the summer session must enroll for at least six academic hours. If they receive any grades below C, their work will be reviewed by the college or school dean or appropriate committee to determine eligibility to reenroll. Students enrolled in the summer session whose grade point averages are below 1.5 may have their work reviewed. Students suspended or dismissed from one school or college shall not be admitted to any other school or college until they are eligible for readmission to the original college or school, unless they obtain the consent of the school's or college's dean or appropriate committee. In this event, the dean or committee shall file a written statement for the student's official records, stating the reasons for the decision.

Academic Dishonesty
Academic dishonesty is a serious offense which may lead to probation, suspension, or expulsion. One form of academic dishonesty is plagiarism—the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also includes such acts as cheating by copying information from another student's examination, take-home test, or laboratory manual. The code of student conduct is in the back of this Bulletin and is also available in the UM-St. Louis Student Handbook, available from the Office of the Vice Chancellor for Student Affairs.

Honor Societies
The following is a list of honor societies at the University of Missouri-St. Louis:

**Alpha Epsilon Rho** (Communication)
**Alpha Mu Alpha** (College of Business Administration-Marketing)
**Alpha Mu Gamma** (Foreign Languages and Literatures)
**Alpha Phi Sigma** (Criminology and Criminal Justice)
**Alpha Sigma Lambda** (Evening College)
**Beta Alpha Psi** (College of Business Administration, Accounting Majors)
**Beta Beta Beta** (Biology)
**Beta Gamma Sigma** (College of Business Administration)
**Beta Sigma Kappa** (College of Optometry)
**Chi Sigma Iota** (Counseling and Family Therapy)
**Financial Management Association** (College of Business Administration)
**Golden Key National Honour Society** (Campus-wide)
**Kappa Delta Pi** (College of Education)
**Lambda Alpha** (Anthropology)
**Omicron Delta Epsilon** (Economics)
**Phi Alpha** (Social Work)
**Phi Alpha Theta** (History)
**Phi Epsilon Kappa** (Physical Education)
**Phi Kappa Phi** (Interdisciplinary)
**Pi Alpha Alpha** (Public Policy Administration)
**Pi Sigma Alpha** (Political Science)
Psi Chi (Psychology)
Sigma Delta Pi (Spanish)
Sigma Iota Rho (International Studies)
Sigma Tau Delta (English)
Sigma Theta Tau (Nursing)

Dean's List
At the end of each semester the College of Arts and Sciences, College of Business Administration, College of Education, College of Fine Arts and Communication, Evening College, and Barnes College of Nursing and Health Studies send letters of commendation to undergraduates completing at least nine hours of graded courses with grade point averages of 3.2 or above for the semester. In addition, each college and school, on an annual basis, sends letters of commendation to part-time undergraduate students who have earned a 3.2 grade point average or above in at least nine but not more than 17 graded hours during the fall and winter semesters combined.

Who's Who Among Students in American Universities and Colleges
Eligible students may be nominated to Who's Who Among Students in American Universities and Colleges by students (themselves or others), faculty members, or administrators. Nominees are selected on the basis of scholastic ability, participation and leadership in academic and extracurricular activities, service to the university, and a promise for future usefulness. Nomination forms and further information may be obtained in room 366 Millennium Student Center or by visiting the Who's Who Web site at http://www.umsl.edu/services/stuactv.

Latin Honors
To graduate with Latin honors, students must have attended UM-St. Louis for at least 56 graded hours and must meet the following qualifications: cum laude 3.2 to 3.49 grade point average; magna cum laude 3.5 to 3.79 grade point average; summa cum laude 3.8 to 4.0 grade point average. If a student has the necessary GPA at UM-St. Louis to qualify for Latin honors but has fewer than 56 graded hours at UM-St. Louis, all credit hours and the associated grades earned within the UM System will be included when the total credit hours earned in the UM System are at least 80 graded hours. In determining one's eligibility for Latin honors, all graded hours will be considered, including the original grade in each grade-modified course. No Latin honor higher than that which is consistent with the UM-St. Louis grade point average will be awarded. All honors must be recommended by the student's major department. (Effective April 2000.)

Office of National Scholarship Information
The mission of the Office of National Scholarship Information (ONS) at the University of Missouri-St Louis is to provide campus wide access to merit-based scholarship information and opportunities. The most well-known of these merit-based scholarships include the Rhodes, British Marshall, Truman, and Fulbright, although numerous other prestigious, and often unique, opportunities exist for outstanding students. For further information, contact the Honors College at (314) 516-5243

Fees for Undergraduate Study
Detailed information regarding current fees and residency regulations is furnished in the Schedule of Courses, a newspaper schedule, distributed before each semester registration, available at the registrar's office or at the Web site: http://www.umsl.edu/services/financial/feeinfo.htm.

Payment of Fees
All fees are due and payable before the beginning of classes each semester. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. A finance charge will be assessed on the unpaid balance of all students at the rate of 1% per month. All accounts will be billed using this method; therefore, it is NOT necessary that a student choose the minimum payment plan at the time the charges are incurred. Students with delinquent accounts will NOT be allowed to register in subsequent semesters.

The University reserves the right to modify by increase or decrease the fees charged for attendance and other services at the University, including but not limited to educational fees, at any time when in the discretion of the governing board the same is in the best interest of the University, provided that no increases can or will be effective unless approved by the governing board not less than 30 days prior to the beginning of the academic term (semester, etc.) to which the fees are applicable and such increase does not exceed ten (10) percent over the fee level existing immediately prior to the increase, with all modification of fees to be effective irrespective as to whether fees have or have not been paid by or on behalf of a student prior to the effective date of the modification.

Credit Cards. Valid MasterCard, VISA and Discover credit and debit cards are accepted toward payment of fees.

Personal Checks. Personal checks in payment of fees and other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student. Any checks payable to the university which are returned unpaid will be assessed a $20 return check charge.

Quick and Easy Ways To Pay Fees
• By Mail using the mail in coupon and envelope provided with your monthly statement.
• Using STAR, from a PC in your home, at work, or on-campus. Payment can be made by credit card only.
• Using TRAIN, from a touch-tone telephone. Payment can be made by credit card only.
• **In Person** at one of the service windows at the Cashier's Office.

**Nonresident Student Fees**
A student admitted to the University as a nonresident is subject to the Nonresident Educational Fee as well as all other required fees. The Missouri resident fact sheet, Residence and Educational Fees Rules, and the petition for Missouri Resident Status are available at www.umsl.edu/services/financial/feeinfo.htm. All questions should be directed to the Office of Admissions at (314) 516-5451.

**Metropolitan Fee Plan**
The Board of Curators of the University of Missouri approved a Metropolitan Fee plan for undergraduate students that grants in-state resident fee status to Illinois students living in Jersey, Madison, Monroe, and St. Clair Counties.

If you have questions, please call (toll-free in the Illinois 618 area code) at 1-888-GO.2.UMSL. (462-8675) or at 314-516-UMSL.

**Fee Reassessment for Dropping Classes or Withdrawal From School**
Fees are reassessed for students who officially withdraw from the University or who drop classes. It is a student's responsibility to formally notify the registrar's office and to follow proper procedures when withdrawing from the financial aid or refusing financial aid does not constitute an official withdrawal from the university. Likewise, failing to attend class does not, in and of itself, mean a student has dropped a class. Please refer to the appropriate sections in this publication for specific information about these procedures.

From the standpoint of fee reassessment, it is in the student's best interest to formally drop a class during the 100 percent refund period to avoid higher cost implications later. Reassessments are based on the total cost of the class(es), not just the amount paid thus far. This is necessary because the university commits resources to students when they register and the space reserved could have gone to another student.

Fees included in the reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee, Special Course Fee (if applicable), and Parking Fee (if applicable). Such fees are reassessed and reduced according to the schedule published in the Schedule of Courses published each semester.

**Policy on Administrative Cancellation of Student Registration for Nonpayment of Educational Fees:**
A registered student is required to remit payment of assessed fees by deadlines that are announced each semester. The University will cancel the registrations in all courses of students from whom the University has not received and processed either the full payment or the required minimum payment (a stipulated portion of the balance due after deducting approved financial aid) for assessed fees by announced deadlines.

**Policies and Procedures Related to Cancellation of Student Registration**
- The University will make efforts to notify any student whose registration is about to be administratively cancelled prior to taking this action.
- On or before the last day on which a student may enroll in a course, a cancelled student's space in a course will be given to other students on that course's wait lists. The cancelled student will be placed at the end of the course wait list.
- Any student who has been administratively cancelled for nonpayment of assessed fees may not enroll in a class unless the required fees have been paid.
- Cancelled students who re-register on or after the first day of the semester will be assessed a nonrefundable late registration charge.
- Once a student's registration has been administratively cancelled for nonpayment of assessed fees, that student may not attend class unless s/he has officially re-registered.

**Refund of Fees**
All refunds are made by mail or direct transfer to your bank and require two to four weeks processing time after withdrawal or dropped classes. Deductions will be made for any financial obligation due the University of Missouri-St. Louis.

**Delinquent Indebtedness**
All delinquent indebtedness to the university must be cleared before transcripts or diplomas will be released, or before registration in subsequent semesters. The university will pursue any and all collection efforts and practices including referring the account to a collection agency and reporting to a credit bureau. The account could be assessed an additional collection charge up to 50 percent of the balance when it is referred to a collection agency.

**Other Fees**

**Laboratory Breakage Fee**
Breakage or loss of laboratory equipment due to personal negligence on the part of the student shall be assessed against the student when the actual value of the supplies exceeds $1.00. The amount of the charge shall be determined by the department chairperson.

**Room and Board**
The university offers many different room and board plans. The average total cost for the residence hall is $5,400 for a nine-month contract. For more information contact the
Office of Residential Life, Provencial House, Villa 101 at (314) 516-6877.

Student Insurance: International Students (required)
International students in F-1 and J-1 status are required to purchase the health insurance policy offered through the university. Information regarding waivers, premiums, and coverage is available through the Office of International Student Services.

Student Insurance (optional)
An Accident and Sickness Insurance plan is available to students and their dependents. Information concerning premiums and coverage is available upon request from University Health Services located at 131 Millennium Student Center or call (314) 516-5671.

Graduate Study
Admission and Application Procedure
The University of Missouri-St. Louis offers courses for graduate credit to qualified individuals to fulfill two kinds of student objectives:

- Completion of academic and professional degrees and certificates.
- Continuing personal or professional development.

Students with a bachelor's degree or the equivalent from an accredited college or university may apply for admission to the Graduate School. Applications are reviewed by the graduate program in which students propose to do graduate study and by the Graduate School. Within limitations, students may be admitted to the Graduate School if their previous academic record and background suggest reasonable likelihood for success in their proposed programs. Students are admitted by the Dean of the Graduate School only upon recommendation of the graduate program involved.

Inquiries concerning admission and requests for application forms should be sent to the Office of Graduate Admissions. A list of admission requirements for the particular degree program is sent with each application form. Application forms for financial assistance are also sent on request. All of the above information and forms are available on the Web at http://www.umsl.edu/divisions/graduate.

Different departments have different application deadlines, some as early as January 1 for the fall semester. Applicants should check with Graduate Admissions for the deadline for the department to which they wish to apply. In general, completed applications should be filed with the Office of Graduate Admissions by July 1 for the fall semester, December 1 for the winter semester, and May 1 for the summer session. Applicants requesting financial aid should submit the application by March 15. The University of Missouri-St. Louis supports the Council of Graduate Schools Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants. This resolution defines the obligations of students and institutions regarding acceptance of support offers after April 15. Inquiries concerning Graduate School admission should be made as early as possible.

All doctoral programs require the GRE General Test. It is also required for the M.A. in Economics, English, Philosophy, Political Science, Psychology, and Sociology, and the M.S. in Physics and Physiological Optics. Advanced GRE examinations in the subject area are required for the Ph.D. program in applied mathematics and psychology and the M.A. in psychology. GMAT is required for applicants to the M.B.A., M.S., and M.Acc. and all graduate business certificate programs. Students who have not taken these examinations should do so at the earliest possible test date.

Application Fee
Applicants for admission into the Graduate School must remit an application fee of $25 for permanent residents of the United States, and $40 for nonpermanent residents or international applicants. An application fee, in the form of a personal check, bank check, or money order payable in U.S. currency, to the University of Missouri-St. Louis, must be submitted with the application.

Admission of International Students
In addition to the general requirements for admission to the Graduate School, other special provisions apply to international students. Prospective students should contact the Office of International Student Services. Phone (314) 516-5229. Fax (314) 516-5636 Email: iss@umsl.edu Web page: http://www.umsl.edu/~intelstlu

International students whose native language is not English must take the TOEFL examination, and score 500 or above, to gain admission to the Graduate School. Teaching assistantships will not be awarded to students whose TOEFL scores are below 570.

For information on applications and test dates for GRE, GMAT, and TOEFL examinations, contact Education Testing Service at http://www.ets.org.

Admission Categories
Any student who receives graduate credit for a course at the University of Missouri-St. Louis must have been admitted to the Graduate School under one of the categories specified for admission:

Matriculated Student
- Regular
- Restricted
- Provisional

Nonmatriculated Student
- Nondegree
- Education certification
Students may be admitted as regular graduate students if the undergraduate GPA and major field GPA are both 2.75 or above on a 4-point scale. A graduate program may establish more restrictive standards of admission for a particular program.

Restricted Students
Students with an undergraduate GPA of 2.5 to 2.75 may be admitted as restricted graduate students if there is strong supporting evidence in other areas: test scores, work in major field, strongly supportive letters, sharp improvement in undergraduate work, previous successful graduate work, evidence of academic maturity following completion of the undergraduate degree, etc. The courses in which such a student enrolls will apply to a degree or certificate program; however, a student may acquire no more than 12 credit hours on restricted status. Shift from restricted to regular status requires:

- A B average on courses taken on restricted status.
- A positive recommendation from the graduate program.
- Approval from the Graduate School.

Students with GPAs below 2.5 will not normally be admitted to the Graduate School.

Provisional Students
A provisional student is one who seems qualified for admission to the Graduate School but who has not submitted all materials required for admission (official transcripts, test scores, etc.). The courses in which such a student enrolls will apply to a degree or certificate program. A student may enroll provisionally for one semester or summer term only. When all admission materials have been received, the graduate program will review the additional material before finally recommending regular or restricted admission, or denial. Because admission to doctoral-level studies is limited to people of demonstrably superior academic ability, the doctoral admission categories do not include restricted status. Only two categories of admission to the doctoral level exist: regular and provisional.

Nonmatriculated Students
Students who wish to take courses solely for personal or professional development should apply for status as nonmatriculated, nondegree graduate students. They must provide an official transcript showing completion of a baccalaureate or higher degree, with a GPA of 2.5 or greater, and they must generally meet the same requirements for admission as a matriculated student with restricted status. They do not need to submit test scores or letters of recommendation. Change from nonmatriculant to matriculant requires submission of a new graduate admission application, and it occurs only upon subsequent recommendation by the graduate program and approval by the Graduate School.

Nondegree Students
Students may be admitted as nondegree students if they are visiting students, they do not intend to pursue a degree, they intend to enter a program not yet established, or they are participants of graduate workshops or institutes. They must be accepted by the appropriate graduate program or a department without an established graduate program. A nondegree student must maintain at least a 3.00 GPA. A nondegree student wishing to take more than 9 credit hours may be allowed to do so, contingent upon departmental recommendation. However, course work completed by a nondegree student is not regarded as completed within a degree program. If such work is later to be transferred into a program, it must be approved by the department and may not exceed 9 credit hours. It may not be counted as part of the residence requirement for a degree.

Education Certification Students
Education certification students are students who are taking courses for state Department of Education certification. They do not need specific departmental approval to take more than 9 credit hours. All other conditions regarding admission and registration that apply to nondegree students apply to education certification students.

Intercampus Exchange Students
Students who have been admitted to an accredited graduate school and who wish to take courses at UM-St. Louis for later transfer to the degree-granting university are intercampus exchange students. Such students should apply for admission as nonmatriculated students.

- Postdoctoral Students
  Individuals with doctoral degrees wishing to pursue special studies at the University of Missouri-St. Louis may be appointed postdoctoral research fellows by the Dean of the Graduate School on recommendation of the appropriate university division.

Traveling Scholars and Interuniversity Graduate Exchange Students
There are two categories of students who may take graduate courses at UM-St. Louis without applying for admission to UM-St. Louis. Traveling Scholars are graduate students at one of the other UM campuses. Traveling Scholars register on their own UM campus to take courses at UM-St. Louis, using a special form to register for each course, and they report to the UM-St. Louis campus when classes begin. Interuniversity graduate exchange students are Washington University or Saint Louis University students who enroll by special

University of Missouri-St. Louis
Graduate Study
arrangement through the registrar on the home campus for courses not offered on their own campus. Students are usually restricted to one exchange program course during their academic program.

Unclassified Students
Students who are not qualified for admission to the Graduate School may request admission to UM-St. Louis as unclassified students. Students so admitted are not admitted to the Graduate School, do not take 400-level courses, and do not receive graduate credit. Credits earned by an unclassified student cannot later become graduate credits should the student subsequently be admitted to the Graduate School.

Enrollment

Enrollment in Off-Campus and Continuing Education Courses
Students may enroll in off-campus and Continuing Education graduate courses on one of two bases. Students who have been admitted to the Graduate School may enroll without further application. Courses they complete satisfactorily may be included as part of a graduate program, subject to departmental and Graduate School approval. (See below for limits on institutes and workshops.)

Students holding a baccalaureate degree who have not been admitted to the Graduate School must simultaneously apply for admission as a nondegree graduate student. If admission is not obtained by the end of the semester, graduate credit will not be received.

Specific courses offered off-campus may be designated as taken in residence. Courses taken at the UM-St. Louis Lindbergh Education Center, St. Charles County Education Center, Jefferson County Education Center, Mineral Area College Center, and East Central Community College Center are considered as taken in residence. Unless otherwise specified, all other off-campus and Continuing Education courses are considered nonresident courses.

Nonresident courses may make up no more than one-third of a master's program. Nonresident courses are not normally included in the final two-thirds of a program.

Undergraduate Enrollment in 5000-Level Courses
Undergraduate students at UM-St. Louis may enroll in 5000-level courses for undergraduate credit. Approvals from the adviser, department chairperson, divisional dean, and graduate dean are required.

Enrollment in Relation to Admission
A student who has been admitted to the Graduate School may begin enrollment in any term of the following calendar year after admission. An approved application will be kept on active file for one year. After initial enrollment, students must enroll for at least one term each calendar year to remain in good standing. Students not meeting this enrollment requirement will be dropped from the Graduate School and required to reapply for admission if they subsequently wish to continue. If students so terminated decide to reapply and if they are readmitted, they will be subject to all regulations in effect at the time of readmission. Doctoral students are required to register each semester after they achieve candidacy.

Leave of Absence
Graduate students who are forced to interrupt their studies for a period of one or more years should request a leave of absence from the university. In consultation with their department and advisor, students should define the program modifications the leave of absence requires. Requests should indicate the reason for leaving and the expected date of return to the university. Approval of the Graduate School is required. A leave of absence does not affect the maximum time limitation set for a degree program, unless a specific exception is approved. The primary effect of a leave of absence is to suspend the requirement for continuous enrollment.

Class Attendance
Only students who have previously paid fees may attend a class. Instructors are not authorized to allow students to attend classes if fees have not been paid. Students may not register and pay fees after the prescribed dates.

Preregistration
Enrolled students may preregister for the next term during regular preregistration periods. Registration is not complete until all university fees are paid.

Maximum Course Load
The normal full-time course load for a regular semester is 9 to 12 credit hours. For an eight-week summer session, the maximum course load is two courses consisting of no more than 6 credit hours. Three hours is the maximum load during four-week summer sessions.

Graduate students who are employed full time may not register for more than six hours. Students employed part time must adjust their course loads according to the number of hours employed. Students may either work full time or carry a full-time load of courses, but not both. Graduate assistants may not work full time.

Petitioning Into or Out of a Course
Students must receive the approval of their adviser and the course instructor to enroll in or withdraw from a course after registration.

Entering a Course in Progress
Students wishing to enter a course in progress must have the approval of the instructor and their adviser. Only under
exceptional circumstances may students enter courses after the first week of the semester.

Dropping a Course
Students may drop courses before the end of the fourth week of a regular semester or the second week of the summer session without receiving grades. At the end of this period and until the end of 12 weeks (or from the third through the sixth week of the summer session), students may withdraw from courses with "Excused" grades providing they are passing the course and have the approval of the instructor and their adviser. Otherwise, a grade of F is given. Students who stop attending classes without officially dropping courses also receive grades of F.

Transcripts
The registrar will furnish transcripts of credits to a student upon written request. Transcripts are furnished to students' parents or guardians or other parties or institutions only if students have filed written consent with the registrar. There is a charge per transcript. Students transferring to another University of Missouri campus may ask the UM-St. Louis Director of Admissions to furnish a transcript to the Office of Graduate Admissions at the other UM campus.

Requests for transcripts by organizations either financially supporting a student or with fee compensation programs are not honored unless the student has filed a consent form with the registrar, authorizing the release of such records.

Transcripts are not issued to or for students who have financial obligations to the university until those obligations are paid in full.

Academic Policy

Course Level
All UM-St. Louis 4000 – 7000 level courses can be taken for graduate credit unless they have been designated in advance "Not for graduate credit." For both master's and doctoral degrees, at least half of the credits must be from 5000-level courses. Individual graduate programs may have more restrictive requirements, requiring a higher proportion of 5000-level credits.

Within the department in which a student is pursuing a degree, no 3000-4000 level courses may be taken for graduate credit. However, outside the student's department, one 3000-level course or one 4000 level course may be taken for graduate credit with the approval of the student's adviser and the instructor. In every such case, the student's adviser must consult with the instructor to ensure that the instructor is aware that the course is being taken for graduate credit. The instructor may assign the additional work to the student commensurate with the student's graduate status. Courses numbered from 2999 and below cannot be taken for graduate credit.

Transfer credit may be granted only for regular graduate courses for which a grade of A or B, or equivalent, was achieved.

Institute and Workshop Courses
Degree credit is allowed for institutes and workshops only if they are offered by a Missouri public university. All institute and workshop credit is considered transfer credit. No more than three hours of transfer credit in this category is permitted.

Graduate workshops or institutes are short-term offerings intended to meet the needs of specialized groups and to provide opportunities to explore new developments and current issues. Graduate study experiences not readily available in existing courses are appropriate for workshop or institute offerings.

A student who completes a workshop or institute course while not enrolled in the Graduate School may not subsequently include the course as part of a degree program. Inclusion of the workshop or institute credit in a graduate program is subject to the approval process inherent in the filing of a degree program. In instances where workshops or institutes are offered on a credit/noncredit or pass/fail basis, such credit may not be applied to a graduate degree.

Foreign Language Requirement
The Graduate School does not have any general foreign language requirements for advanced degrees. Where graduate programs establish required levels of competence in one or more foreign languages, that competence shall be shown in one of the following ways, as determined by the graduate programs: an examination given by the graduate program or satisfactory completion of a language course at a specified level. Evidence that the foreign language requirement has been satisfied shall be presented to the Graduate School in each case.

Grades
Faculty have complete discretion in assigning grades in their courses. Point assignments for grades are as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
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<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
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<tr>
<td>B-</td>
<td>2.7</td>
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<tr>
<td>C+</td>
<td>2.3</td>
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<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

The satisfactory/unsatisfactory (S/U) option is not available to students taking courses at any level for graduate credit. Students may enter courses as auditors but may not change from audit to credit or credit to audit after the first week of class. Auditors are charged full fees and receive no academic credit. Grade modification is not an option for graduate students. The Graduate School does not recognize a D grade for a graduate student enrolled in a course carrying graduate credit. According to the
regulations of the Graduate School, grades lower than C-are recorded as F.

Delayed grades may be given when a student's work is incomplete but otherwise worthy of credit. Delayed grades must be removed within two regular semesters after the time recorded or they automatically become F grades. Delayed grades recorded for courses in thesis or dissertation research are left as delayed grades until the final regular grades are reported by the instructor.

Students cannot earn a graduate degree with any delayed grades on their transcript. The only exception to this rule is for students enrolled in doctoral programs who are obtaining a master's degree or graduate certificate on the way to the doctorate. For these students, delayed grades in dissertation research are allowed at the time they receive their master's degree or graduate certificate.

**Grade Point Average (GPA) on a 4.0 Scale**

All courses taken at UM-St. Louis for graduate credit figure into the calculation of the transcript GPA, including courses that may not be a part of the degree program. However, only those courses included in the degree or certificate program are included in the calculation of the program GPA. The program GPA must be at least 3.0 for a student to receive a graduate degree or certificate.

**Probation**

A graduate program must place a graduate student on probation if the transcript GPA, based on a minimum of three courses (9 credit hours), falls below 3.0 or if it regards the student's progress as unsatisfactory. The student will be placed on probation for one semester, during which time progress will be formally reviewed by the appropriate graduate program. After one semester the student will be removed from probation, continued on probation, or dismissed. A student may not continue on probation for more than one calendar year without permission of the dean of the Graduate School. Probation letters will be sent out by the graduate program, with copies sent to the Graduate School and the Graduate Office of Admissions.

**Dismissal**

A graduate student can be dismissed from the Graduate School on the recommendation of the graduate program and concurrence of the Graduate School. Dismissal letters will be sent out by the Graduate School, with copies sent to the graduate adviser and the Graduate Office of Admissions. Notification will be sent by the Graduate School to the Registrar's Office. Nondegree students must maintain the same standards required of students enrolled in degree or certificate programs. Upon recommendation of the graduate program, nondegree students may be dismissed if their grade point averages fall below 3.0. They are dismissed if their grade point average is below 3.0 at the end of 12 completed credit hours of study.

**Certificate Programs**

**Credit Requirements**

A minimum of 18 hours of course work is required for a graduate certificate. At least 12 of these credit hours must consist of courses drawn from the list of core courses for the particular certificate program. At least 12 credit hours must be completed in residence at UM-St. Louis. At least 9 credit hours must be at the 5000 level. No more than 6 credit hours may be independent study.

**Filing the Degree Program**

A graduate student enrolled in a certificate program is required to file a degree program with the Graduate School before completing the first two-thirds of the number of hours required in the program.

**Master's Degree Requirements**

**Credit Requirements**

A minimum of 30 semester hours carrying graduate credit is required for every master's degree program.

**Filing for Degree Program**

Before completing the first two-thirds of the required hours in a degree program, graduate students, in consultation with their advisers, should file a program of study. This program must be approved by the graduate program involved and the dean of the Graduate School.

**Thesis and Comprehensive Examinations**

Although not a general Graduate School requirement, a thesis may be required in particular degree programs. Where required, the thesis is directed by a three-member committee of graduate faculty appointed by the dean of the Graduate School on the recommendation of the graduate program.

Microfilming of master's theses is required by the Graduate School as a condition of degree conferral. Information on requirements, costs, and optional copyrighting can be obtained from the Graduate School. Comprehensive examinations--oral, written, or both--are required in most master's degree programs. Examinations are administered by a committee of no fewer than three graduate faculty members appointed by the dean of the Graduate School on the recommendation of the graduate program.

**Dual Master's Degrees**

With approval of the graduate program and the dean of the Graduate School, students who have completed one master's degree may transfer appropriate credits to a second master's degree program. The number of transferable credits may not exceed one-third of the credit hours required by the second program; subsequent transfers to a third master's degree are not permitted.
With approval of the graduate programs involved and the dean of the Graduate School, students may simultaneously pursue two master's degrees under the following conditions:

- No more than one-third of the credit hours required by either program may be applied to both programs.
- Students must obtain approval of the graduate program and graduate advisers from both areas before they have completed 12 hours in either program. Under normal circumstances, two degrees will be pursued consecutively rather than concurrently.

An exception to the above one-third limit may be granted by the dean of the Graduate School if the two degree programs have filed with the Graduate School approved guidelines addressing specific allowable transfers between those two degree programs.

**Credit From a Certificate Program**

Students who have completed course credits in certificate programs may transfer such credits into a master's degree program with the consent of the graduate program, as long as the credits fall within the time limitations set for master's degrees. If the master's degree is in a different graduate program from that awarding the certificate, then no more than one-third of the credits from the certificate program may apply to the master's degree. Students engaged in established multidisciplinary studies governed by guidelines approved by the relevant graduate programs and the Graduate School may apply appropriate certificate credits in excess of this limit.

**Time Limitation**

The maximum amount of time allowed for completion of a master's degree is six years after the first graduate course enrollment. All courses included in a master's degree program, whether taken at UM-St. Louis or at another institution, must have been completed within six years of the awarding of the degree.

**Residence Requirement**

The final two-thirds of the courses in a master's degree program must be completed in residence at UM-St. Louis.

**Continuous Enrollment**

All master's degree students who regularly utilize faculty or facilities for the purpose of advisement, data gathering, or examinations must be enrolled for credit commensurate with this activity.

**Degree Conferral**

Candidates for the master's degree are expected to attend commencement.

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**Doctoral Degree Requirements**

The doctoral degree is based on evidence that candidates have achieved a high level of scholarship and proficiency in research. The proficiency of students and their ability to work independently are established by a series of qualifying and comprehensive examinations and by the quality of their dissertations.

**Credit Requirements**

A minimum of 60 credit hours carrying graduate credit is required for every doctoral degree program. Graduate programs may require a greater number of credit hours.

**Residence Requirement**

The majority of credits used to satisfy requirements for a doctoral degree must be completed in residence at UM-St. Louis. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, at least 46 hours must be completed at UM-St. Louis.

At some point in their course work, doctoral students must successfully complete a minimum of 15 hours over two consecutive terms ("term" meaning a regular semester or a summer session). The 15 hours may not all be taken in one term.

Work completed as a post-master's degree student, prior to admission to a doctoral program, may be counted toward a doctoral degree, up to a maximum of 12 credit hours.

Inclusion of such course work is subject to graduate program approval and must have been completed within eight years of the time the doctoral degree is awarded. Exceptions to this regulation must be justified on academically defensible grounds and must be approved by the graduate dean prior to filing the program.

When doctoral students have earned a master's degree, appropriate credits may be applied toward meeting the requirement for the doctoral degree, subject to graduate program approval. Such credits must constitute less than half of the total credits required for the doctorate. For example, for a doctoral degree requiring 90 credit hours of work beyond the bachelor's degree, no more than 44 credit hours from a master's degree may apply to the doctoral degree. Credit for courses taken for a master's degree is exempt from the eight-year time limitation.

**Time Limitation**

Doctoral-degree work must be completed within eight years after the first course of the doctoral program of study.

**Comprehensive Examination**

Each graduate program will determine the number of times a comprehensive examination may be taken by a student. The graduate program must file with the Graduate School a statement specifying (a) the number of times the graduate program will allow its students to take a comprehensive
examination and (b) the maximum and/or minimum period of time the department will allow between the first and final attempt to pass the comprehensive examination.

Appointment of the Comprehensive Examination Committee is made by the graduate dean upon recommendation of the graduate program.

The comprehensive exam format must be approved by the graduate program and the dean of the Graduate School. The format may consist of an oral and/or written portion. No revision of the approved format is permitted without the approval of the graduate program and the dean.

Application for Candidacy
An Application for Candidacy should be filed immediately after the student has passed all comprehensive and language examinations, as required by the graduate program, and completed all course work.

Dissertation Proposal
A doctoral dissertation proposal should be filed before the student conducts any substantial research. Prior to this filing, the dissertation committee will meet with the student for an oral defense of the dissertation proposal. The dissertation proposal must be accepted by the Graduate School before a doctoral student completes the sixth semester of study, or before the student takes more than 4 credit hours of dissertation credit, whichever comes later.

It is understood that the dissertation research may evolve in directions quite different from the dissertation proposal, and the proposal is not intended to restrict the development of a research project. The dissertation proposal is in no way a contract between the university and the student. Depending on the outcome of the research, the dissertation may require substantially more work than anticipated at the stage of the dissertation proposal. The termination of a line of research and the adoption of a substantially new dissertation project will require the preparation, oral defense, and acceptance by the dissertation committee and the dean of the Graduate School of the new dissertation proposal.

Continuous Enrollment
When students are advanced to candidacy, they must remain in continuous enrollment until the degree is conferred. If students are actively engaged in degree activities on campus, they shall enroll for credit commensurate with this activity. If away from campus, students shall enroll for at least one credit hour each semester.

Dissertation Committee
The Doctoral Dissertation Committee will consist of at least four members of the UM-St. Louis Graduate Faculty. Included in this number is the committee chair, who must be a member of the Doctoral Faculty. Also included in this number is at least one person from outside the division, college, or school. The majority of members of the committee must be from the department in which the student is obtaining the degree.

When the Dissertation Committee deliberates on a dissertation or on an oral defense of the dissertation, two negative votes are sufficient for failure, even if outnumbered by positive votes. An abstention will be considered a negative vote. A student failing an oral defense should be provided with an opportunity for an additional defense. The timing and format of the subsequent defense will be determined by the Dissertation Committee and the second defense will take place before the same committee.

Dissertation and Final Examination
One copy of the dissertation, certified as complete and provisionally acceptable by all dissertation committee members, must be submitted to the Graduate School at least six weeks before commencement. The dean of the Graduate School may assign the dissertation to other readers, on- or off-campus, or seek such other advice as the dean feels pertinent.

Upon preliminary acceptance of the dissertation, the dean of the Graduate School appoints the Defense of Dissertation Committee to conduct the final examination. The dean appoints members of the Dissertation Committee and such other members of the Graduate Faculty as seem appropriate.

Candidates must submit an oral defense announcement, including an abstract of the dissertation, at least three weeks before the oral examination. The Defense of Dissertation Committee certifies the final acceptability of the dissertation to the dean of the Graduate School on the basis of a final examination open to all Graduate Faculty members. The chairperson of the Dissertation Committee is responsible for verifying that all the changes suggested by the graduate dean and the

Dissertation Committee have been incorporated in the final draft of the dissertation or have been discussed further with the graduate dean or the committee. This certification is made by signing the Final Approval of the Doctoral Dissertation form. Microfilming of doctoral dissertations by UMI is required by the Graduate School. Information on requirements, costs, and optional copyrighting can be obtained from the Graduate School or the library representative.

Degree Conferral
Candidates for the doctoral degree are expected to attend Commencement.
Fees for Graduate Study

Detailed information regarding current fees and residency regulations is furnished in the *Schedule of Courses*, distributed before each semester registration, available at the Registrar’s office or on the Web site: http://www.umsl.edu/services/financial/feeinfo.htm.

The university reserves the right to change fees and other charges at any time without advance notice.

Nonresident Students
A student who is admitted to the University as a nonresident must pay the Nonresident Educational Fee as well as all other required fees. The Residence and Education Fee Rules are available at: www.umsl.edu/services/finance/resrules.htm. The petition for a change of Missouri Resident Status is available at: www.umsl.edu/services/finance/res-pet.htm. All questions should be directed to the Office of Admissions at (314) 516-5451.

Final Semester Incidental Fee
Students must enroll in the semester in which they graduate.

Thesis and Dissertation Fee
Graduate students must also pay a fee for the binding and microfilming of the thesis or dissertation.

Fees for Auditing Courses
Auditors are charged full fees and receive no academic credit.

Laboratory Breakage Fee
Breakage or loss of laboratory equipment due to personal negligence on the part of the student shall be assessed against the student when the actual value of the supplies exceeds $1. The amount of the charge shall be determined by the department chairperson.

Room and Board
The university offers many different room and board plans. For more information please contact the Office of Residential Life at (314) 516-6877.

Student Insurance: International Students (required)
International students in F-1 and J-1 status are required to purchase the health insurance policy offered through the university. Information regarding waivers, premiums, and coverage is available through the Office of International Student Services.

Student Insurance: (optional): An Accident and Sickness Insurance plan is available to students and their dependents. Information concerning premiums and coverage is available upon request from University Health Services.

Payment of Fees
Students receive a fee payment schedule at the time of their registration. All fees are due and payable prior to the start of each semester. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. A finance charge will be assessed on the unpaid balance of all students at the rate of 1 percent per month. All accounts will be billed using this method; therefore, it is NOT necessary that a student choose the minimum payment plan at the time the charges are incurred. Students with delinquent accounts will NOT be allowed to register in subsequent semesters.

Policy on Administrative Cancellation of Student Registration for Nonpayment of Educational Fees:
A registered student is required to remit payment of assessed fees by deadlines that are announced each semester. The University will cancel the registrations in all courses of students from whom the University has not received and processed either the full payment or the required minimum payment (a stipulated portion of the balance due after deducting approved financial aid) for assessed fees by announced deadlines.

Policies and Procedures Related to Cancellation of Student Registration
- The University will make efforts to notify any student whose registration is about to be administratively cancelled prior to taking this action.
- On or before the last day on which a student may enroll in a course, a cancelled student’s space in a course will be given to other students on that course’s wait lists. The cancelled student will be placed at the end of the course wait list.
- Any student who has been administratively cancelled for nonpayment of assessed fees may not enroll in a class unless the required fees have been paid.
- Cancelled students who re-register on or after the first day of the semester will be assessed a nonrefundable late registration charge.
- Once a student’s registration has been administratively cancelled for nonpayment of assessed fees, that student may not attend class unless s/he has officially re-registered.

The University reserves the right to modify by increase or decrease the fees charged for attendance and other services at the University, including but not limited to educational fees, at any time when in the discretion of the governing board the same is in the best interest of the University, provided that no increases can or will be effective unless approved by the governing board not less than thirty (30) days prior to the beginning of the academic term (semester, etc.) to which the fees are applicable and such increase does not exceed ten (10) percent over the fee level existing immediately prior to the increase, with all
modification of fees to be effective irrespective as to whether fees have or have not been paid by or on behalf of a student prior to the effective date of the modification.

Personal Checks. Personal checks in payment of fees and other obligations to the university will be accepted only when the amount of the check does not exceed the amount due from the student. Any checks payable to the university which are returned unpaid will be assessed a $20 return check charge.

Credit Cards. Valid MasterCard, VISA, and Discover credit and debit cards are accepted toward payment of fees.

Quick and Easy Ways To Pay Fees.
- Mail, using the mail-in coupon and envelope provided with the monthly statement.
- Using STAR, from a PC in your home, work or campus. Payment can be made by credit card only.
- Using TRAIN, from a touch-tone telephone. Payment can be made by credit card only.
- In Person at one of the service windows at the Cashier's Office.

Fee Assessment for Dropping Classes or Withdrawal
Fees are reassessed for students who officially withdraw from the University or who drop classes. It is the student's responsibility to formally notify the registrar's office and to follow proper procedures when withdrawing from the university or dropping a class or classes. Failure to receive financial aid or refusing financial aid does not constitute an official withdrawal from the university. Likewise, failing to attend class does not, in and of itself, mean a student has dropped a class. Refer to the appropriate sections in this publication for specific information about these procedures. Fees included in the reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee, Special Course Fee (if applicable) and Parking Fee (if applicable). Such fees are reassessed and reduced according to the schedule published in the Schedule of Courses each semester.

Financial Assistance

Teaching and Research Assistantships
Most departments with established graduate programs offer teaching and research assistantships to qualified graduate students. Appointments are usually half-time appointments and carry stipends. Students receiving .5 FTE assistantships receive a fellowship covering residential and nonresidential educational fees. Students with these assistantships must register for a minimum of 6 credit hours in semesters in which they hold the assistantship.

Teaching or research assistantship appointments are made directly by the departments. Inquiries and applications for assistantships should be addressed to the director of the graduate program of the appropriate department. Applications should be submitted no later than March 15 for the fall semester. Occasionally a few teaching assistantships are available for the winter semester. Interested students should contact the director of the appropriate graduate program as soon as possible.

Millennium Student Center
Fall 2000 students were the first to use this 165,000-square-foot center. The design includes a four-story rotunda, a third-floor gallery with clerestory windows, and a climate-controlled pedestrian bridge leading to the academic quadrangle. In addition, there is a fireside social lounge, a quiet study lounge, student art gallery, a large, tiered meeting chamber, an expanse of first-class conference areas, twin television lounges, a game room and a cyber lab.

Students asked for a "one-stop shopping" building with a consolidation of all student services and functions under one roof. Accommodating this request, the following departments, previously scattered around the campus, are conveniently located in the Millennium Student Center: Student Activities, Student Government, Student Organizations, Evening College, Academic Advising Center, Admissions, Registration, Financial Aid, Cashier, Degree Audit, Career Services, Women's Center, Health Services, Accessibility Services, Food Services, Bookstore, Convenience Stores, and a bank.

Food Services
The Millennium Student Center has a food venue on each level. The first floor features The NOSH food court where students enjoy a variety of foods in a relaxed, friendly dining experience. The second floor is the location for Aroma's bakery and coffee shop for those who want to grab and go. The future Avant Garden will offer students a panoramic view of the campus while they enjoy a buffet lunch.

Bookstore
The University-owned and -operated Bookstore is the headquarters for textbooks, reference materials, general reading, supplies, gifts, and logo items.
of more than one million volumes, 2,900 periodical subscriptions, one million U.S. government documents, over one million items in microform, and numerous special and manuscript collections.

Materials from the libraries of all campuses of the University of Missouri and Saint Louis University can be identified in the MERLIN online catalog. Through the MERLIN catalog, users can request that items at other institutions be transferred to UM-St. Louis to be checked out. A full range of services, including interlibrary loan, reference assistance, library instruction and access to a large number of databases are also available through the Libraries.

Western Historical Manuscript Collection and University Archives

Kenneth F. Thomas, Senior Manuscript Specialist, Western Historical Manuscript Collection
M.A., University of Missouri-St. Louis
William M. (Zelli) Fischetti, Associate Director
Western Historical Manuscript Collection and University Archives
M.A., University of Missouri-St. Louis
Linda J. Belford, Senior Manuscript Specialist, University Archives
M.A., University of Missouri-St. Louis

The Western Historical Manuscript Collection contains primary source materials for research in many fields, including local history, the environment, labor history, women's history, politics, and black history. The collection is open to the university community and the general public. Material from the other three campuses in the WHMC system may be borrowed for research use at UM-St. Louis. A catalog of the holdings of the other branches of WHMC is available.

The archives contain official records, campus publications, student newspapers, photographs, and other material on the history of the University of Missouri-St. Louis. Located on Level II in the Thomas Jefferson Library, the office is open for reference service Monday through Friday, 8 a.m. to 4:45 p.m. and until 9 p.m. on Tuesday. Archival and manuscript material does not circulate.
University Services

Veteran’s Affairs
The Veteran’s Affairs Office, 269 Millennium Student Center, serves as liaison to various government offices to provide information on benefits, privileges, and responsibilities relating to Veteran Administration educational benefits. A certifying official is available to answer veterans’ questions and process official paperwork.

Veterans are certified to the Veteran Affairs Regional Office beginning with the date of initial registration, and regularly until the expected completion date of the VA-approved program or degree. Veteran students must promptly inform the certifying official in 269 Millennium Student Center of any changes in status which might affect benefits. Failure to report such changes can result in overpayments and other complications in receipt of benefits.

Veteran students are expected to attend classes, perform academic duties as assigned by instructors, and adhere to academic policies. Failure to do so will result in reports to the VA of unsatisfactory progress, which may result in discontinuance of benefits. Veteran students who cease attending but do not officially withdraw from class or from the university will be reported as not making satisfactory progress.

If enrollment status is altered in any way, the VA will be notified and an overpayment may be charged against the veteran. For complete details and information, contact the Veteran Affairs Office at (314) 516-5676.

Women’s Center
The Women’s Center serves as an educational resource center offering an information and referral service, advocacy, programs on women’s issues, cultural events, a library of literature by and about women, topical resource files, and information on women’s activities, networks, organizations, and services in St. Louis. Located in 126 Millennium Student Center, the Women’s Center offers support and assistance in coping with sexual harassment, help in doing research on women, and answers to questions about almost anything. The center is also a good place to relax, drink coffee, and share ideas and experiences with other UM-St. Louis students in a comfortable atmosphere.

Counseling Services
Counseling Services offers professional counseling regarding personal, social, educational, and career concerns. Services include individual and couple counseling, educational workshops, and groups, as well as career testing and career development counseling. Counseling Services also provides consultation to faculty and staff.

Counseling Services’ Career Resource Center contains a well-stocked library of career-related materials and computerized career tests. The Study Skills Lab offers assessment and instruction in study skills and strategies for academic success. Use of the Career Resource Center and Study Skills Lab is free of charge. There is a small fee for career testing.

Counseling Services supervises the undergraduate Horizons peer educators. Horizons peer educators assist students looking for information about career options or academic majors in the Career Resource Center. They also present programs and workshops on topics such as alcohol awareness, time management, career exploration and stress management. The staff also provides training and supervision for graduate student interns. For information about participating in any of these programs, call (314) 516-5711.

The Counseling Services receptionist will arrange for an appointment with a counselor or for use of computer programs. Evening appointments are available for Evening College students. In an emergency, students can be seen almost immediately. For more information, call (314) 516-5711 or visit Counseling Services office at 126 Millennium Student Center. Web site: http://www.umsl.edu/services/counsel

University Health Services
University Health Services, an ambulatory care clinic in 131 Millennium Student Center, offers wellness through care and education. Basic health services include treatment of minor injury and illness, screening exams, women’s health care, strep throat testing, pregnancy testing, tuberculin skin testing, flu shots, immunizations, urinalysis, and allergy injections. Care is provided by nurse practitioners and registered nurses. Consultation is offered on nutrition and diet management, sexually transmitted diseases, contraception, wellness assessment, and health promotion. Consultation is available to clients with chronic health problems (such as asthma, and diabetes) in assisting with health problem management. Educational materials on a variety of health-related topics are available. Educational outreach programs addressing current health issues and needs are offered. Assistance with referral to medical facilities is provided upon request and when deemed necessary. For an appointment or for further information, call (314) 516-5671. For a medical emergency on campus, call 911.

The university requests that students born after 1956 provide documented proof of immunity to measles and rubella, through current immunization records or disease documentation by a physician. Immunization records may be sent to University Health Services. Information, application, and claim forms for the Student Accident and Sickness Insurance Plan are available at the UHS office. Validation for handicapped parking is handled through UHS upon presentation of signed medical
documentation verifying a disability that impairs mobility. Automobile information and license plate number are also necessary to obtain verification for handicapped parking.

Drug and Alcohol Prevention Program
Pursuant to the Drug-Free Schools and Communities Act Amendments of 1989, the University of Missouri-St. Louis is required to establish a drug and alcohol prevention program for its students and employees. A biennial review of this program will be done to determine its effectiveness, to implement changes to the program if they are needed, and to ensure that the university's disciplinary sanctions are consistently enforced. The UM-St. Louis Drug and Alcohol Prevention Program is described in a brochure which is mailed to students annually. For information concerning these resources available from the university and/or community agencies, students, employees, and faculty may contact the offices below. Such referrals will respect individual confidentiality.

Coordinator of Alcohol and Drug Prevention Programming, 211 Clark Hall, (314) 516-5414; Counseling Service, 126 Millennium Student Center (314) 516-5711; Student Health Center, 126 Millennium Student Center, (314) 516-5671, or the Office of Human Resources, 211 General Services Building, (314) 516-5804.

Smoke-Free Campus Policy of UM-St. Louis
Effective June 1, 1991, smoking is prohibited throughout the University of Missouri-St. Louis campus.

Institutional Safety
The mission of the University of Missouri-St. Louis police department is to work cooperatively with the university community and within the framework of the Constitution, enforce the laws, preserve the peace, and provide a safe environment for the campus.

The police department an internationally accredited department is committed to professional management and to providing services in a manner that is responsive to community concerns. It pledges to be sensitive to the needs of those it serves. The police department located in the TeleCommunity Center, serves the students, faculty, and staff by providing year-round campus security. The police are trained to give emergency aid in the event of accident or illness. All incidents should be reported immediately to the police department, telephone (314) 516-5155. A “911” phone number is available on all phones with a 516 prefix and should be used for emergencies only. These numbers are monitored 24 hours a day. Call for help or to report fire or any hazardous conditions. Emergency telephones on campus include the red AHot-Line phones, which are located in every building. In addition, there are a number of outdoor emergency phones that connect directly to the police dispatcher.

Traffic regulation is also a responsibility of the campus police, including issuance of faculty/staff parking permits and any temporary parking permits. These permits may be picked up at the police department office. Informational booklets on traffic regulations and parking, as well as campus maps, tips on crime prevention, and other useful publications are available outside the police department office.

The police department provides limited emergency vehicle service, at no charge, to vehicles on campus. Any person requiring such service (due to dead battery, empty fuel tank, flat tire, etc.) should phone the university police for assistance. An escort service is available 24 hours a day by calling (314) 516-5155. All members of the campus community are strongly encouraged to call the police for an escort if they feel uncomfortable walking to their car at night.

For information on any of these services, contact the police by calling (314) 516-5158, Monday through Friday, 8 a.m. to 5 p.m. For emergencies, call (314) 516-5155 or 911.

Academic Resources
Center for Academic Development (CAD)
CAD is an academic support and assessment unit that focuses attention on the needs of UM-St. Louis students seeking success in their coursework. The center is comprehensive in nature and offers the following programs:

- The Writing Lab This lab offers tutorial assistance to students working on papers for their classes. No appointment is necessary, and tutors are prepared to help both undergraduate and graduate students in all the disciplines. Issues covered in the lab include organization, sentence clarity, development, grammar, and usage. The Writing Lab offers both IBM and Macintosh computers for student use, and tutors provide computer assistance. There is no charge for any Writing Lab service.

- English-as-a-Second Language Program (ESL)
The center is the administrative home for the English as a Second Language Program. The program provides assessment and supplementary ESL courses for international students. Courses are listed under the Foreign Languages and Literatures Department.

- Mathematics Lab. This lab offers individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or needing help with the mathematical skills required for a course in another discipline. The Math Lab contains a
small computer lab. Students or prospective students who are preparing to take the Mathematics Placement Test or C-Base Exam may come to the lab for help. Review materials for these two tests are available on general reserve in the Thomas Jefferson Library. Practice math placement exams are available at the University's home page under: math placement information/m math practice tests.

- **Math Workshops.** The center provides assistance for students needing to improve their skills in mathematics. Zero-credit workshops covering Beginning and Intermediate Algebra are offered as a semester-long lecture class or as an independent study course with flexible beginning and ending options. Schedules for the workshops can be found in the current *Schedule of Courses.*

- **Assessment Center.** The center provides a controlled environment for students to take make-up exams or to test under conditions where special accommodations are needed and authorized. Students unable to take campus level exams (e.g. Math Placement, Academic Profile) in regularly scheduled group sessions may take them in the center for a fee. All testing is by appointment. Call (314) 516-6396.

**Tutor Referral Services** Students desiring a private tutor for a particular course should check with the appropriate academic department for a list of tutors. Some tutor names and phone numbers can be found on the tutor referral list Web site under: tutor referral services on the campus home page. Times and costs are arranged by student and tutor.

**Multicultural Relations.** Multicultural Relations was designed to support the university's goal of academic success for all students. Cognizant of the unique challenges facing the minority population, Multicultural Relations works to enhance and promote academic success for these students. It provides and directly links students to such services as new student orientation, scholar retention, tutoring, academic counseling, career exploration, and leadership development. Workshops and discussion groups are held to foster a larger awareness of the university and its resources. Students meet with counselors to work on individual academic plans and are assigned tutors if necessary. Student Support Services Program and African American Scholars Retention Program are a part of Multicultural Relations and assist in ensuring that the mission of this office is accomplished. Additionally, Multicultural Relations fosters effective communication among students, faculty, staff, and alumni.

**Division of Student Affairs**

**Office of the Vice Chancellor for Student Affairs**

The Office of the Vice Chancellor for Student Affairs, located in 301 Woods Hall, 516-5211, offers assistance and a wide variety of services to students. The office is responsible for administering the Student Conduct Code, confidentiality of student records, and the Discrimination Grievance Procedure for Students.

**Disability Access Services**

Located in 144 Millennium Student Center, Disability Access Services provides information, guidance, referral services, and assistance for students with disabilities. Special arrangements and assistance in providing for the accessibility needs of students with permanent or temporary disabling conditions are available through this office. A TDD is provided for individuals with a hearing impairment. For more information or questions, call (314) 516-6554 (voice) or (314) 516-5212 (TDD). Additional information is available at the Web site http://www.umsl.edu/services/disabled/.

The Division of Student Affairs has been awarded a federal Student Support Services TRIO Grant to provide specialized educational services to students with disabilities. The S.T.A.R.S. (Students Taking Advantage of Resource Services) SSS grant project office is located in 144 Millennium Student Center, telephone (314) 516-6554 (voice) or (314) 516-5212 (TDD). Applications for these services are available in the office. Web site: www.umsl.edu/~stars/

**Admissions**

The Office of Admissions is located in 351 Millennium Student Center, (314) 516-5451. Admissions is generally the first point of contact for prospective students who require information and assistance as they go about planning for the college decision process. The Office of Admissions arranges tours of campus, sponsors open houses throughout the year for both first-time freshmen and transfers, and processes admission applications. Prospective students and families as well as applicants can arrange to meet personally with admission counselors. Counselors can provide information on applying for financial aid and scholarships, placement tests, and new student orientation.

**Registrar/Registration/Records**

The Office of the Registrar is located in 269 Millennium Student Center, (314) 516-5545 and the website is: www.umsl.edu/~register/

This office is responsible for registration, academic records, grades, transcripts, enrollment verification, veterans certification, change of name and/or address,
ordering diplomas, and many other enrollment-related services. No appointment is needed for service, and hours are convenient to both day and evening students.

Degree Audit
The Degree Audit office, 261A Millennium Student Center, (314) 516-6814, provides an automated record (DARS report) which reflects a student’s progress toward degree completion. This report is very useful in planning a major, tracking graduation requirements, and investigating other areas of study. DARS reports are available from a student’s academic adviser, who will assist in the interpretation of the audit as well as online through the STARUMSL system.

Student Financial Aid
The Office of Student Financial Aid is located in 278 Millennium Student Center, (314) 516-5526. The staff in this office assist students with applying for financial aid, including scholarships, grants, loans, and work study. The office is open various hours to accommodate both day and evening students. Appointments are not necessary.

Office of Residential Life
Located in 101A Provincial House, (314) 516-6877. The Office of Residential Life offers on-campus housing to students year-round. The Office of Residential Life offers air-conditioned, furnished residence halls, in which 93 percent of rooms are singles. Contracts for 9 and 12 months are available. Residence Hall rates include all utilities, local phone service with six features, cable, microfridges (combination refrigerator and microwave), data communications hook-ups in each room, and a tax-exempt declining-balance meal plan. The halls also offer a large swimming pool, as well as laundry facilities, kitchenettes, and common TV lounges. All residence halls are located on the free campus shuttle route.

For students who are at least 21 years of age, Mansion Hill condominiums offer one-and two-bedroom unfurnished apartments conveniently located adjacent to the campus. The complex is on the free campus shuttle route and offers swimming pool, picnic areas, recreation areas, and laundry facilities. Rent is billed to the university account of UM-St. Louis student residents.

A variety of social, cultural, and educational programs and activities are offered by the Office of Residential Life and the Residence Halls Association. As one of the most active and visible student organizations on campus, RHA serves as the student voice for residence hall students, providing leadership opportunities and activities both on- and off-campus. Residential students are active in intramurals, student organizations, campus leadership positions, and other university activities. Tours of the UM-St. Louis residence halls and campus operated-housing are available by calling (314) 516-6877.

Office of Student Activities
E-Mail: studentactivities@umsl.edu. Web Page: http://www.umsl.edu/services/stuactiv

The Office of Student Activities, 366 Millennium Student Center, advises and serves as a facilitator for programs and services provided to 120 recognized and registered student organizations at the University of Missouri-St. Louis. The director of Student Activities serves as a nonvoting chairperson for the Student Activity Budget Committee, which allocates operating budgets to organizations approved for funding.

The Office of Student Activities directs the campuswide orientation program so that students can become acquainted with university rules, procedures, and services. For more information call (314) 516-5291.

In conjunction with the University Program Board, the Office of Student Activities sponsors a diverse series of educational, cultural, recreational, and social programs, services, and activities which complement the academic mission of the campus and attend to developmental needs of students at UM-St. Louis.

The office serves as a resource for students desiring information about any student organization on campus and will actively assist any student wishing to participate in any student organization or program on campus.

Organizations. There are approximately 120 student organizations at UM-St. Louis ranging in size from 3 to 50 members. Their activities address the educational, cultural, social, recreational, and spiritual curricular needs of the campus community. Social fraternities and sororities, performing and fine arts, curriculum-related support groups, ice hockey, bowling, and other special interest clubs enhance the collegiate experience. The Associated Black Collegians, International Students Organization, and Women's Center serve as resources for students on campus. Information regarding student organizations is available in 366 Millennium Student Center. Specific organizations may be contacted by mail through the same address.

The University Program Board, a 15-student volunteer group, initiates and implements a variety of lectures, and appearances by comedians and musical groups throughout the year. The board also sponsors games, tournaments, and discounted tickets for local sporting events, concerts, and theater. Most campus events are free to the campus community and are subsidized by student activity fees. Membership in this organization is open to students who are interested in coordinating these types of programs. Information is available by calling (314) 516-5291 or by stopping by the Office of Student Activities in 366 Millennium Student Center.
Housing Referral. The Student Activities Office maintains a list of available apartments, rooms, and flats in the North County area. Lists of persons requesting roommates are also available.

Student Government

Student Association
The Student Association of the University of Missouri-St. Louis is the student governance body composed of both elected student representatives from each school and college, and of organizational representatives from every recognized student organization which petitions for representation on the assembly.

The purpose of the Student Association is to represent University of Missouri-St. Louis student concerns at every level of governance within the university and at the state and local level. This is done by ensuring adequate and capable student representation within the University Senate, the policy-making and governance body of the University of Missouri-St. Louis. In addition, Student Government, the policy-making arm of the Student Association, has its own standing committees to address student concerns. On the local and state levels, Student Government leaders visit various officials to address student concerns and priorities throughout the year. For more information call (314) 516-5105 or drop by 375 Millennium Student Center.

Student Court
The Student Court is nominated by the Student Assembly and appointed by the vice chancellor for Student Affairs. The five-member court rules on student appeals concerning matters such as disputes between individuals and organizations, or organizations and organizations.

Evening College Council
The Evening College Council serves the evening student body as a liaison between students, faculty, and administrators. It functions as a sounding board for Evening College students' ideas and interests, and it coordinates social activities of special interest to evening students. Membership is open to all Evening College students who are in good standing. Contact the Evening College, 2nd floor Millennium Student Center, at (314) 516-5105 or any council member for more information.

Faculty Senate and University Assembly
The governance structure at UM-St. Louis was substantially reorganized during the 1999-2000 academic year. The governance structure was approved by the Faculty on January 26, 2000 and the Board of Curators on March 23, 2000.

The Faculty Senate has 40 faculty members, 30 representing departments and 10 elected at large. In addition, three administrators are non-voting members.

Athletics

Recreational Sports
The university's recreational sports program is geared toward the interests of the entire university community. Students, faculty, staff, and alumni are encouraged to take active roles in the creation of new recreational sports programs.

Intramural activities currently offered include touch football, basketball, volleyball, racquetball, golf, tennis, bowling, softball, hoc soc, fun run, soccer, and weight lifting. For more information call (314) 516-5125.

Intercollegiate Sports
A variety of intercollegiate sports are available for both men and women at UM-St. Louis. The Rivermen and Riverwomen compete at the NCAA Division II level and are members of the Great Lakes Valley Conference. The women's intercollegiate athletic program includes basketball, soccer, tennis, volleyball, golf, and softball. The men's intercollegiate athletic program includes basketball, soccer, golf, baseball, and tennis. Scholarships are available for both men and women in all sports. Both men's and women's athletic teams have brought both local and national recognition to the university for more than 20 years, with one national championship and trips to the NCAA Tournament in several sports.

UM-St. Louis students with validated IDs are admitted free to all home athletic contests.

For more information about intercollegiate athletics, please call (314) 516-5661.

Facilities

The athletic and exercise areas in the Mark Twain Building are available for use by the university community at specified hours. During the regular semester, the building is open seven days a week and on specified evenings. Facilities include basketball, volleyball, badminton, and handball/racquetball courts, an aerobic dance room, and an NCAA regulation swimming pool.

The facilities also include two conditioning and fitness rooms with state-of-the-art equipment, an indoor running track suitable for walking or running, and a sauna. Outdoor facilities include baseball, softball, soccer, intramural
fields, and tennis courts. For further information call (314) 516-5641.

Other Services

Alumni and Constituent Relations Office
UM-St. Louis alumni, now numbering more than 62,000, help shape the future of not only the university but the entire St. Louis region. The Alumni Association and the Office of Alumni and Constituent Relations work together to promote the St. Louis campus and build mutually beneficial relations between the university and its alumni and friends. Membership in the Alumni Association is open to all graduates and former students with payment of modest dues.

Alumni Association
The Alumni Association sponsors several scholarship funds for UM-St. Louis undergraduate and graduate students, provides special funding of certain campus projects, and works as an organization to obtain increased public support for the university. For more information, call (314) 516-5833.

A historic and elegant setting, the Alumni Center, located at 7956 Natural Bridge Road across the street from the main campus entrance, offers students, faculty, staff, and alumni a gathering place for community receptions and other social events. Contact the Alumni Center at (314) 516-5722 for more information and reservations.

Career Services
Career Services works in partnership with employers and the campus community by helping students and alumni to develop, implement, and evaluate job search strategies.

Job and career services are available to all UM-St. Louis students and alumni. Career Services hours are Monday through Friday, 8 a.m. to 5 p.m. For more information, call (314) 516-5111, or visit 327 Millennium Student Center.

Web Registration. Internet technology allows students 24/7 access to career services. Web registration enables students to become members of the Candidate Database, display resumes in the Web Resume Book for hundreds of local and national employers to view, and produce professional targeted resumes, interview on campus, and more.

Candidate Database. Qualifications and experience of Candidate Database members may be quickly matched with job vacancy listings. Resumes will be sent directly to the employer.

Web HomePage. Provides general information about Career Services, upcoming Job Fairs, Career Days, and other special events, the on-campus interviewing schedule, direct links to company information, job banks, career resource materials, and self-assessment exercises. The Web Job Listings service has hundreds of current vacancies listed daily by employers. 

http://www.umsl.edu/depts/career

Career Mapper. This career development tool gives students and alumni a thorough analysis of abilities, interests, and personality traits, creating a picture of how best to fit into the job market. Career Mapper can help students who are confused about career direction or need validation that they are moving in the right direction.

Steps-to-Career-Success Program. Designed to assist students who may be uncertain about their career goals and job options, this program provides a systematic approach to making the right choices.

Career Experience and Employment Program. Co-op and internship opportunities help students with expenses and a degree-related position to give a competitive edge in the job market. Jobs may be part-time, full-time or summer positions, and, if the work is related to an academic major, students will receive a transcript notation. This program may be used to "test drive" a career decision.

Career Assistance Program. This job search program can assist with career management decisions, career transition, or job change questions. It can help students and alumni to manage a career with positive results, evaluate skills, interests, and traits, and provides structure, guidance, and motivation in the job search.

Internships and Practicum Opportunities. The Career Experience and Employment Program combines classroom studies with work experience in a field related to education and career goals. These degree related positions offer students an excellent opportunity to gain professional job experience and earn money to help with expenses while in school: Through this program, students begin to understand what career choices they might make, gain valuable contacts in their field, and, in many cases, get paid for their work. They graduate with a college degree and an impressive resume.

The Career Experience and Employment Program links students, UM-St. Louis, and employers in partnership. Throughout this program, Career Services, and academic departments work with students and employers to ensure that positions are linked to curriculum and career development. Students who work in this program will receive a transcript notation for each semester employed.

These work arrangements are available to UM-St. Louis students at all levels in all majors. Contact Career Services for requirements for participation and opportunities available, 516-5111, or visit 327 Millennium Center.
Anthropology
315(4315), Senior Seminar - required, for credit
325 - 329(4325-4329), Internship in Cultural
Anthropology, Archaeology, Folklore, Museum Studies,
Physical Anthropology - elective, for credit; placement
with outside organizations; junior standing required.

Positions available on competitive basis as lab and
research assistants, teachers/facilitators, and
interns/assistants - optional, noncredit.

Human Origin and Cultural Diversity program offers
internships in educational anthropology and diversity
education.

Biology
231(3699), Undergraduate Internship in Biotechnology
optional as part of certificate program, for credit or
noncredit, enrollment in certificate program required.
347(4299) Practicum in Conservation - required as part of
certificate program, for credit, enrollment in certificate
program required.

Chemistry
Opportunities are available to pursue research with faculty
members for credit during the academic year. Normally
requires enrollment in Chemistry 290(3905). Stipend
available in some cases. Expended opportunities available
in the summer through the Research Experience for
Undergraduates Program, which is typically funded by the
National Science Foundation and local industry. In some
cases students may conduct Chemistry 290(3905) research
at a local company through collaborative arrangement
between a faculty members and an industrial chemist.

Communication
193(1193), 194(1194), 196(1196), 197(1197), Practicum in
Applied Communication, Debate/Forensics, Radio, and
Television/Film - required, for credit. On-campus
positions, as available.
393(3393), 394(3394), 396(3396), 397(3397), Internship in
Applied Communication, Journalism, Radio, and
Television/Film - elective, for credit, Senior standing, 3.0
GPA, and faculty recommendation required; off-campus
positions.

Criminology and Criminal Justice
280(3280) Internship in Criminology and Criminal Justice
elective, for credit.

Economics
Career-related work arrangements for students majoring in
economics are primarily administered through the
department, located in 408 SSB. These positions are
generally paid and non-credit bearing; however, students
receive a transcript notation for each semester worked.
Occasionally credit may be earned for selected
assignments with departmental approval.

English
320(4890), Independent Writing Project - internships
offered in areas such as journalism, public relations,
writing, publishing, and technical writing; for credit,
enrollment in Writing Certificate Program required.
198(2980) Practicum in Theater - optional, credit
398(4980), Internship in Theater - optional, credit.

Foreign Languages and Literatures
Positions as tutors in language lab available on a
competitive basis - paid, noncredit. Students of German
language or French can apply for summer internships abroad through the
German-American Student Exchange Program - noncredit.
Information available in department.

History
390(4001), Special Readings - internships occasionally
available with historical agencies; department chair and/or
undergraduate coordinator must approve to obtain credit.

Mathematics and Computer Science
Career-related work arrangements for students majoring in
math and/or computer science are primarily administered
through Career Services located in 327 Millennium
Student Center. These positions are paid and non-credit
bearing; however, students receive a transcript notation for
each semester worked.

Physics and Astronomy
The department funds research internships in the
department in both physics and astronomy. The awards are
competitive, and preference is given to students who have
completed the Physics 111/112(2111/2112) sequence.

Political Science
295(3940), Public Affairs Internship - required, for credit,
for bachelor of science in public administration program. It
may also count as an elective, for credit, within the
bachelor of arts in political science program and is open to
all majors. Placements include municipal, state, and
federal governmental agencies, nonprofit organizations,
courts, and political campaign offices.

Psychology
295(3295), Selected Projects in Field Placement - elective,
for credit.

Social Work
320(4800) and 321(4850) Supervised Field Experience in
Social Work I and II - required, for credit, enrollment in
B.S.W. program and prior consent of instructor are
required.

Sociology
385(4385), Internship in Sociology - elective, for credit.
304(4040) Survey Research Practicum - elective, for
credit. Students should consult the sociology department,
707 Tower, for requirement guidelines.
Many departments within the College of Arts and Sciences work in cooperation with the College of Education for students seeking teaching certification in an emphasis area. Student teaching work arrangements are coordinated through the College of Education.

College of Business Administration
Career-related work arrangements for students majoring in all areas of business are primarily administered through Career Services. These positions are paid and non-credit-bearing; however, students receive transcript notation for each semester worked.

BA327(3590), Practicum in Finance - recommended course for credit and compensation for students with a finance emphasis. Students work closely with local firms to gain practical work experience.

College of Education
Student Teaching - required, for credit. The College of Education is involved with a variety of programs which provide students with academically related work opportunities. These include Parkway Central Middle School/UM-St. Louis Internship Program, Professional Development School Program, and Schools for Thought-Compton-Drew Middle School. These programs are optional and both for credit and non-credit. Positions at Parkway Central Middle School and Compton-Drew Middle School are paid.

College of Fine Arts and Communication
Art
287(3387), Professional Internship for Art History majors only-elective, for credit
288(3388), St. Louis Art Museum Internship for Studio Art or Art History majors only – competitive position elective for credit.
Music
292(4920), Internship – required, for credit, enrollment in bachelor of music business required. Department sponsored internships available for all majors at St. Louis area arts institutions

Engineering
UM-St. Louis/Washington University Joint Undergraduate Engineering Program Career-related work arrangements for students majoring in all areas of engineering are primarily administered through Career Services. These positions are paid and non-credit-bearing; however, students receive a transcript notation for each semester worked.

Barnes College of Nursing and Health Studies
Clinical courses are required in both the undergraduate and graduate programs. These experiences are limited to nursing majors only.

Pierre Laclede Honors College

Internships chosen by Honors College students, or arranged by their major departments, are valuable opportunities to broaden educational experience while also meeting the honors independent study requirement for graduation.

Visit Career Services, 327 Millennium Student Center, or call (314) 516-5111 for more information on these programs and other work arrangements available. Website: http://www.umsl.edu/depts/career

Research Enterprise

Office of Research Administration
The Office of Research Administration (ORA) provides support services to faculty, graduate students, and staff seeking external grant funds for research, instruction, and service from federal, state, and local government programs, as well as private foundations. Several specialized research units report to the Office of Research Administration. In addition, the ORA facilitates technology transfer through assisting inventors in filing for patent applications, negotiating licensing agreements, and setting up start-up companies.

The ORA works together with faculty committees to award and administer internal research grants, including coordination of the University of Missouri Research Board competition, Research Awards, the Small Grants Funds, the Chancellor's Awards for Research and Creativity, and the Grants Incentive Funds. The ORA also works through faculty committees to monitor University compliance with various federal and state regulations for research.

http://www.umsl.edu/services/ora/

Center for Emerging Technologies
The Center for Emerging Technologies is a public-private-academic partnership, which includes the University of Missouri-St. Louis and the Missouri Department of Economic Development. The mission of the Center is to position the St. Louis region as an important center for advanced technology and knowledge-based economic development. The Center primarily functions as an incubator for startup companies. With 90,000 square feet of space, it houses fifteen startup companies. Inventions that lead to the establishment of startups often originate from university research laboratories and faculty and graduate students provide valuable expertise to these enterprises. In addition, the Center presents educational seminars to help entrepreneurs with legal matters related to patents and licenses, information on venture capital financing, and other business strategies.

http://www.emergingtech.org/
Missouri Enterprise

Missouri Enterprise is a non-profit statewide operation affiliated with the university. It assists small businesses with industrial, manufacturing, and design engineering projects; it helps in developing strategic business and marketing plans; and in setting up performance evaluation. Missouri Enterprise specialists advise businesses on all aspects of their operations, from tactical product promotions to complete, company-wide five-year business plans. Their services assist businesses in improving personnel management, safety, manufacturing efficiency, research funding, communications services and recordkeeping, feasibility studies, and more.

http://www.missourienterprise.org/

Public Policy Research Center

PPRC is the focal point for the University’s role as a metropolitan institution, committed to meeting the diverse needs of Missouri’s largest urban region. The center’s professional staff and faculty from a wide variety of disciplines are dedicated to improving public strategies that foster livable communities, the economic well-being of the region’s people, and the sustainability of the natural and built environments. In particular, the PPRC focuses its resources on issues related to neighborhood and community development, economic vitality, governance (at the local, county, and regional levels), and land-use and transportation-policy planning.

The PPRC endeavors to achieve its mission by:
- Undertaking objective basic and applied research.
- Serving as a regional information and data center.
- Sponsoring forums and seminars for debates and discussions.
- Publishing and disseminating policy briefs, issue papers, research reports, and newsletters.
- Commenting on issues of public policy and identifying regional challenges and opportunities.
- Providing training and certificate programs for community and government leaders and professional organizations.

The center undertakes these tasks by developing partnerships with local, county, regional and state governments and agencies, nongovernmental organizations, and citizen’s groups. It also promotes policy research through faculty fellows. Drawn from a variety of disciplines such as public policy administration, economics, political science, business, sociology, nursing, education, social work and history, fellows receive PPRC support to undertake and disseminate applied research. PPRC also serves as a policy laboratory for a number of graduate students participating in research and outreach activities. PPRC is organized around four activity areas: research, community and neighborhood development, metropolitan information and data analysis services, and publications and communication. It also mounts regularly changing photographic exhibits.

http://www.umsl.edu/services/pprc/index.htm

Center for Business and Industrial Studies

The Center for Business and Industrial Studies is organized within the College of Business Administration for studying managerial problems and performing applied research. The center operates on a not-for-profit basis, helping organizations nationwide to understand factors affecting their business environments and to enhance their productivity. University faculty, supported by powerful computer systems, statistical databases, and sophisticated software, provide multidisciplinary consultation in a wide variety of business applications. Studies are undertaken in computer systems, operations management, human resources management, planning and business development, facilities location, distribution, marketing, and financial analysis. Organizations contract with the center for studies tailored to their specific needs. For a brochure outlining the center’s services, call (314) 516-5857.

http://www.umsl.edu/divisions/business/ncbis/cbis.html

Center for Transportation Studies

This center is an interdisciplinary center, bridging contemporary and historical aspects of transportation. It brings together scholars from Business, History, Economics, Political Science, English, Art History and others. The Center is pioneering a new program in Supply Chain Management, developing funds for research into the role private sector transportation plays in the provision of public transportation services.

http://www.umsl.edu/depts/cts/

Center for Entrepreneurship and Economic Education

The Center for Entrepreneurship and Economic Education is sponsored by the College of Arts and Sciences and Continuing Education-Outreach to support and enhance economic education in elementary and secondary schools. The center provides in-service programs in economic education to area teachers. Working closely with local school districts, the center serves to improve and evaluate economics curriculum. The center develops and publishes curriculum units for K-12 classrooms. Entrepreneurship education is another focus for center activities. The center also promotes the goals of entrepreneurship and economic education among business, professional, educational, labor, and other organizations and individuals in the St. Louis community.

http://www.umsl.edu/-econed/
International Center for Tropical Ecology
The Center for Tropical Ecology promotes education and research concerning the study of biodiversity, conservation, and sustainable use of tropical ecosystems. The center was established to centralize the activities of faculty at UM-St. Louis and researchers at the Missouri Botanical Garden who specialize in ecology, evolution, systematics, and conservation biology. A priority is to provide funding for graduate students interested in tropical biology and conservation who are enrolled in the cooperative graduate program between UM-St. Louis and the Missouri Botanical Garden. The International Center for Tropical Ecology sponsors multidisciplinary lectures and symposia on biological, political, and cultural issues related to tropical ecosystems. The center also provides funding and assistance to the undergraduate Certificate in Conservation Biology, which focuses on Missouri conservation, and the graduate certificate in Tropical Biology and Conservation. For further information visit the ICTE Web page: http://icte.umsl.edu.

Center for Molecular Electronics
Molecular electronics lies at the cutting edge of recent developments in the study and application of thin-film materials, the growth of semiconductor device material, the fabrication of electronic sensors and devices, and the development of high-performance polymers. In all these areas, knowledge and control at the atomic or molecular level is essential for state-of-the-art materials and devices. In recognition of the critical importance of research, education, and industry-university cooperation in these areas, the University of Missouri-St. Louis has established the Center for Molecular Electronics. The goals of the center are both research at the forefront of the field of molecular electronics and assistance in development of high-technology products by St. Louis-area corporations. To encourage cooperation between university and corporate scientists and engineers, the membership of the center includes physicists, chemists, and engineers from the University of Missouri-St. Louis, Washington University, MEMC Electronic Materials, and Monsanto Company. http://newton.umsl.edu/cme.html/

Center for Neurodynamics
This center sponsors basic research on transmission and processing of information by the brain and the sensory nervous system. Research functions are performed largely by faculty, graduate students, and postdoctoral research associates, though exceptionally talented and motivated undergraduate students also make valuable research contributions. The center is interdisciplinary, composed of faculty from the departments of Biology and Physics and the College of Optometry. It maintains a program of external associates with whom collaborative research projects are pursued. Current associates are in Baylor College of Medicine, Houston, Texas; the Department of Biomedical Engineering, Boston University, Boston, Mass.; and Viatech Imaging Inc., Ivoryton, Conn. The center is host to frequent scientific visitors and maintains an active program of seminars on contemporary problems in neuroscience and in the physics underlying neural processes. For further information consult the URL http://neurodyan.umsl.edu.

Missouri Research Park
The University of Missouri System Strategic Plan establishes a mission and goal to promote economic growth for the state and provide assistance in manpower training, technology transfer, innovation and research and development through productive partnerships. The Missouri Research Park is a result of that vision and has been the catalyst for high-tech development along the Hwy. 40/61 corridor in St. Charles County. Major corporations have followed the trend and are clustering near the Missouri Research Park. http://www.umtechparks.com/home.html

Center for Trauma Recovery
CTR is a multi-disciplinary center of the University of Missouri-St. Louis whose purpose is to foster research, graduate and undergraduate education, and service in the areas of trauma and victimization. The Center consists of faculty affiliates from six departments in the University who have research, teaching or service interests in trauma related topics. These individuals share a common set of goals. The Center sponsors a colloquium series every semester and offers an undergraduate certificate in Trauma Studies. The CTR is housed in the Kathy J. Weinman building which also contains the Weinman Child Advocacy Center that provides services to traumatized children. http://www.umsl.edu/divisions/arts/centerfortrauma/CTRHome.html

Kathy J. Weinman Children's Advocacy Centre
The Weinman Children's Advocacy Centre (CAC) is located on the campus of the University of Missouri - St. Louis. The mission of the Centre is to address the many needs of children and families who are impacted by child sexual abuse.

The Centre provides the investigative and medical component which traditionally has been provided in child advocacy centers throughout the nation and in the greater St. Louis community. Additionally, the center provides much needed assessment, intervention and prevention services. Also, outreach, community education, continuing education and educational outreach are undertaken.

http://www.umsl.edu/services/casgsl/homepage.htm
Centers Providing Public and University Service

Child Development Center
The Child Development Center, 130 South Campus Classroom Building, provides high-quality day programs for children of students, faculty, staff, and community families. The center is accredited by the Academy of Early Childhood Programs, a division of the National Association for the Education of Young Children, one of 24 accredited programs in the St. Louis area. The program operates from 7 a.m. to 5:30 p.m. Monday through Friday, year round. This program serves children from six weeks to five years of age. The center also provides university students with observation, participation, research, and similar educational and clinical opportunities. Call the center at 516-5658 for additional information.

E. Desmond Lee Technology and Learning Center
The TLC models a technology enriched classroom where theories and ideas are put into practice. The TLC is a resource for the community. Everyone is welcome to use the facility. Graduate students working in the center focus on research and assist in the development of effective uses of technology learning environments.

Center for Human Origin and Cultural Diversity
The Center for Human Origin and Cultural Diversity was founded in Fall, 1995 as a joint venture between the Anthropology Department, and the May buye Center (Archive of the African National Congress) at the University of the Western Cape, South Africa. Building on the foundation of anthropological knowledge, the Center will design a K-12 curriculum. Currently, no comprehensive anthropology curriculum exists in the U.S. Programs are also offered in conjunction with the Gerontology Program and the Missouri Historical Society.

Center for Humanities
The center provides visibility and focus for humanities activities at UM-St. Louis and attracts and channels resources for support of interdisciplinary humanistic inquiry. The center sponsors a variety of conferences, symposia, and lectures. Over the last several years, the center has sponsored a conference in the fall semester titled "What is a City?" which examines the structure and social environment of cities and their effects on social and cultural diversity. In the spring semester the center sponsors a second conference on an interdisciplinary humanistic theme. The center also sponsors throughout the academic year the Monday Noon Cultural Series, which features a variety of humanities lectures and musical performances. The center also supports and coordinates the poetry and short story series, which offers contemporary authors reading their works. In addition the center houses and funds the journal *Theory and Society*, a refereed, interdisciplinary journal of social theory and practices, published by Kluwer Academic in The Netherlands. The center disseminates information on the humanities on its Web site and promotes development of interdisciplinary outreach programs.

Information Technology Services
Information Technology Services provides students, faculty, and staff with an integrated array of voice, video, and data services, including consultation, programming, training and operational, support

Eleven Smart classrooms provide network-attached computers at each student station as well as an instructor station. High-resolution projectors and video/audio systems complete these facilities. There are also more than fifty media-enhanced lecture halls/classrooms with instructor stations as well as projection systems. These Technology Enhanced classrooms provide faculty with electronic blackboards for lecture notes, and software demonstrations. Complementing these facilities are student computer laboratories in the Social Sciences Building, Thomas Jefferson Library, Bentor Hall, and South Campus Computer Building where consultants are available to assist students with general operation and troubleshooting needs.

The MyGatewary site (http://mygateway.umsl.edu) provides on-line course materials as well as many other features such as: class email, discussion forums, virtual chat, and address book, calendar, and task list. From this web site, you can access course and organizational information; find tools to communicate with students, professors and colleagues; link to Registrar’s grades and schedules; and access links to other campus services.

The On-Line Testing Center in the South Campus Computer Building provides computer-based testing services. The center is staffed seven days a week, offering both midday and evening hours, by a proctor that assists the students in getting started with examinations and provides scheduling support.

The Technology Support Center, 211 Lucas Hall (516-6034) is available for students, faculty, and staff who have general questions regarding their accounts or use of campus resources. The Web office provides assistance for faculty and staff in developing Web pages.

The Faculty Resource Center (FRC) is an area set aside for faculty use in the development and preparation of computerized courseware. Within the FRC is an array of computer equipment and software designed to make this process easier. Consultants are available to help faculty with software and hardware. The computers in the FRC are designed to mirror instructor's stations in the Advanced Technology Classrooms. For more information, please visit our web site at http://www.umsl.edu/technology/ or call 314/516/6000.
Center for International Studies
The Center for International Studies supports academic programs, seminars, and conferences designed to promote and improve research in international studies, improve methods of teaching international studies in schools and colleges, and encourage an interest in international affairs in the university and area communities. The center's Office of International Student Services coordinates and provides services for international students including admissions, immigration, orientation, nonacademic advising, etc. In addition, the center administers the campus exchange and study abroad programs and disseminates information on study, work, and travel abroad. The center promotes the development of interdisciplinary and multidisciplinary courses, assists in staffing courses within individual departments, houses the Joint Center for East Asian Studies of UM-St. Louis and Washington University, the E. Desmond Lee Global Ethnic Collaborative, the Karakas Family Foundation Alliance for the Advancement of Hellenic Studies, and the Endowed Professorships in African-American Studies, Chinese Studies, Greek Studies, Irish Studies, Japanese Studies, and the German Culture Center. It conducts seminars that address specific faculty and student needs and interests, sponsors conferences for academic and community audiences, organizes international business development programs, sponsors an International Performing Arts series, issues occasional papers, administers undergraduate certificate programs in African studies, East Asian studies, European studies, international business, international studies, and Latin American studies and the Graduate Certificate in International Studies. In addition, the Center serves precollegiate educators statewide through the Missouri International Studies Resource Collection and operates a comprehensive global education program.

KWMU
90.7 KWMU-FM, is the 100,000-watt public radio station of the University of Missouri-St. Louis and National Public Radio/ Public Radio International affiliate. The professionally staffed station broadcasts news, talk, and entertainment 24 hours a day. KWMU provides programming that is responsive to the needs of the community. In training students who plan to pursue broadcast careers, KWMU augments the educational and training function of the university.

Regional Center for Education and Work
The Center initiates, promotes and supports programs that foster cooperation and information sharing among business, labor, social service and education for healthy long-term work force development and economic improvement for the St. Louis Region. The center will be a hub for regional research and planning in workforce development, employment trends and job forecasting. It serves as a resource to education, school counseling, labor force training and social service providers.

Center for Teaching Excellence
The CTE is a division of the Office of Academic Affairs and exists to promote high quality teaching at the University of Missouri-St. Louis. It offers programs designed to support faculty (full-time and part-time), graduate students, and Teaching Assistants with their instructional responsibilities. Orientations, workshops, and seminars are offered to help colleagues learn and support each other in the scholarship of teaching.

University Eye Center
Located on the South Campus, the center is open to the public as well as to faculty, staff, and students of the university. Its goal is to provide patients with high-quality vision care and optometry students with diverse educational opportunities. The school also operates the Optometric Center, a comprehensive optometric eye care facility in the Central West End of the city of St. Louis, and the East St. Louis Eye Center, jointly owned and operated by the University of Missouri-St. Louis College of Optometry and Southern Illinois University at Edwardsville.

UM-St. Louis Institute for Women's and Gender Studies
The Institute has three central missions: to provide a comprehensive undergraduate and graduate women's and gender studies curriculum, to support basic and applied research on women's and gender issues, and to work in partnership with community, cultural, business and educational institutions to serve the needs of women and girls in the St. Louis region and beyond. Institute faculty engage in disciplinary and interdisciplinary scholarship aimed at deepening the understanding of gender and of women's lives and experiences across time and cultures and are actively involved in the application of scholarship in public policy, cultural and educational context.

Women's Center
The Women's Center was founded in 1972 by a group of students, Women for a Change, who petitioned the chancellor's office for space and funding. The mission of the Women's Center is one of support and empowerment. The center has a tradition of serving the diverse campus population, welcoming everyone, regardless of gender, ethnicity or sexual orientation. The center provides the campus at large with a variety of services.

- Support and Advocacy
- Referrals to Community resources
- Programs
- Lending Library and Topical Files
- Hospitable Atmosphere
- Meeting Space
- Emergency Contact File
Continuing Education and Outreach

As the comprehensive public university in a metropolitan region, UM-St. Louis serves students who are in many ways nontraditional in their demographic make-up, their approach to higher education, and their educational needs. Meeting the requirements of these nontraditional students while extending the expertise of the university to the community is the mission of Continuing Education and Outreach.

Through Continuing Education and Outreach, the university's schools and colleges administer a wide variety of credit courses, noncredit programs, and problem-oriented research for the benefit of the greater St. Louis metropolitan area and beyond. Programs are offered both on and off campus. Research, generally of an applied, urban-related nature, is designed to solve specific problems of client groups.

Arts and Sciences

Continuing Education and Outreach in the College of Arts and Sciences includes credit courses and noncredit programs for the college's departmental disciplines, including courses and workshops in the arts, microcomputers, music appreciation, writing, languages, history, and science. Interdisciplinary teaching and research programs deal with such fields as social work, the humanities, and economics. Programs for ongoing professional development provide targeted, concentrated information to area employers and to the general public regarding scientific and technological advancements. Informational lectures and workshops on current issues are offered to the interested public.

Continuing Education and Outreach in the College of Arts and Sciences also sponsors the Center for Entrepreneurship and Economic Education, which provides programs and curriculum consultations to local teachers and schools.

The Microcomputer Program, which develops and teaches applied computer courses and offers the Chancellor's Certificate on the Computer, along with other certificate programs, is also a unit of Arts and Sciences Continuing Education and Outreach.

The Advanced Credit Program, administered by Arts and Sciences, provides an enrichment experience for university-bound secondary students by providing freshman-level courses for credit in selected high schools.

The Gateway Writing Project offers credit and noncredit programs on writing improvement for classroom teachers.

A variety of credit courses offered at locations throughout the St. Louis metropolitan area enables students to obtain academic credit at locations convenient to where they live and work.

The Annual St. Louis Storytelling Festival is also sponsored by Continuing Education and Outreach. The College of Arts and Sciences partners with area cultural institutions to offer credit and noncredit programs for symphony, opera, and theater fans.

Business Administration

Continuing Education programs through the College of Business Administration are offered in several areas, including organizational and management development and individual professional growth. Programs include a certificate program for first-line supervisors and a certificate program for human resource administrators. Special seminars and conferences are offered regularly on specific topics of current interest. In addition, the college co-sponsors programs in the area of microcomputing.

Education

The overall aim of the College of Education's outreach activities is to provide services that bring about better teaching and learning situations in educational settings. The programs and courses help students complete Missouri teacher certification requirements as well as provide work either toward advanced degrees or for in-service professional growth. The college extends instructional research and service to educational personnel in other parts of Missouri and the Midwest in addition to the St. Louis metropolitan area.

Fine Arts and Communication

The College of Fine Arts and Communication offers a variety of Continuing Education and Outreach activities to the community. Four endowed professorships are focused on community outreach in the arts. The award-winning E. Desmond Lee Music Education Collaborative, and other collaborative activities undertaken by the College in conjunction with arts organizations in the greater St. Louis area, all contribute to the college mission. A range of credit and non-credit fine arts outreach programs are offered in partnership with the Saint Louis Symphony, Opera Theatre of Saint Louis, and the Muny. The Arianna String Quartet, in residence at the University of Missouri-St. Louis, as well as other faculty and student ensembles, engage the St. Louis community in arts performances, clinics, and other activities. The Premiere Performances concert series presents high caliber chamber music artists and ensembles from around the world.

Graduate School and Public Policy Administration

The Nonprofit Management and Leadership Program offers comprehensive education and training for professional staff, board members, and other leaders of nonprofit and voluntary organizations, as well as students and others wishing to explore a future in the field. The program offers noncredit seminars and credit courses leading to undergraduate and graduate certificates.
Nursing
Barnes College of Nursing and Health Studies at UM-St. Louis offers a variety of continuing education programs for nurses and other health care professionals. Undergraduate Nursing and Arts and Sciences credit courses are offered for those wishing to complete their B.S.N. or finish prerequisites to begin work on a master's degree. Selected graduate courses are also offered.

Optometry
The University of Missouri-St. Louis offers Continuing Education and Outreach programs for optometrists through the UM-St. Louis College of Optometry. Diagnostic and therapeutic classes are held on a frequent basis with doctors coming from a variety of states. Each spring, the Optometric Institute draws several hundred optometrists, optometric assistants, and technicians for a two-day conference covering the latest optometric techniques.

Outreach Sites
Continuing Education and Outreach offers selected graduate and undergraduate credit courses at UM-St. Louis Lindbergh, a satellite center located at Lindbergh High School in south St. Louis County. Continuing Education and Outreach offers credit courses at other metropolitan sites, including St. Charles West Senior High School, and Jefferson College in Hillsboro.

The UM-St. Louis St. Charles County Educational Center has been established on the campus of St. Charles Community College. Junior- and senior-level courses are offered at this site. In the Jefferson County Educational Center, courses are offered at Fox High School in Arnold and Jefferson College in Hillsboro. The university offers additional junior- and senior-level courses at Mineral Area College in Park Hills and at East Central Community College facilities in Union and Washington, Missouri, respectively.

In-house Training
Specialized research and technical assistance and in-house training programs are available to local businesses and organizations. With the help of expert faculty and staff consultants, the university is equipped to deliver specialized training on an in-house basis.

J.C. Penney Conference Center
This large conference facility at UM-St. Louis houses a 435-seat auditorium, as well as six large conference rooms, designed to provide an excellent academic environment and maximum convenience for course participants. A complete conference staff provides administrative support for seminars and conferences, as well as coordination for hundreds of hosted programs each year. For more information on programs and services offered by Continuing Education and Outreach, call (314) 516-5961.
# Degree Programs

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Degree Programs

Undergraduate Studies
Undergraduate degree programs are offered by the College of Arts and Sciences, College of Business Administration, College of Education, Evening College, College of Fine Arts, and Barnes College of Nursing and Health Sciences.

Bachelor of Arts (B.A.)
- Anthropology
- Art history
- Biology
- Chemistry
- Communication
- Economics
- English
- French
- German
- History
- Mathematics
- Music
- Philosophy
- Physics
- Political science
- Psychology
- Sociology
- Spanish

Bachelor of Fine Arts (B.F.A.)

Bachelor of General Studies (B.G.S.)

Bachelor of Health Studies (B.H.S.)

Bachelor of Music (B.M.)
- Music
- Music education

Bachelor of Science (B.S.)
- Accounting
- Applied mathematics
- Biology
- Chemistry
- Civil engineering (joint program with Washington University)
- Computer science
- Criminology and criminal justice
- Economics
- Electrical engineering (joint program with Washington University)
- Management information systems
- Mathematics
- Mechanical engineering (joint program with Washington University)
- Nursing
- Physics
- Sociology

University of Missouri-St. Louis
Degree Programs

Bachelor of Science in Business Administration (B.S.B.A.)
Bachelor of Science in Education (B.S.Ed.)
- Early childhood education
- Elementary education
- Physical education
- Secondary education
- Special education

Bachelor of Science in Nursing (B.S.N.)
Bachelor of Science in Public Administration (B.S.P.A.)
Bachelor of Social Work (B.S.W.)

Graduate Studies
The Graduate School administers all degrees and certificates beyond the bachelor's degree in all divisions except the College of Optometry, which administers the professional program leading to the Doctor of Optometry degree. In most cases, master's degree programs can be completed through part-time study.

Master of Accounting (M. Acc.)

Master of Arts (M.A.)
- Communication
- Criminology and criminal justice
- Economics
- English
- History
- Mathematics
- Philosophy
- Political science
- Psychology
- Sociology

Master of Fine Arts (M.F.A.)
- Creative writing

Master of Health Science (M.H.S.)
- Managerial decision making and health informatics

Master of Music Education (M.M.E.)

Master of Business Administration (M.B.A.)

Master of Education (M.Ed.)
- Counseling
- Educational administration
- Elementary education
- Secondary education
- Special education
Master of Public Policy Administration (M.P.P.A.)

Master of Science (M.S.)
Biology
Chemistry
Computer science
Gerontology
Management information systems
Physics
Physiological optics

Master of Science in Nursing (M.S.N.)

Master of Social Work (M.S.W.)

Doctor of Education (Ed.D.)

Doctor of Optometry (O.D.)

Doctor of Philosophy (Ph.D.)
Applied mathematics
Biology
Business administration
Chemistry
Criminology and criminal justice
Education
Information systems
Nursing
Physics
Physiological optics
Political science
Psychology
College of Arts and Sciences

General Information

The College of Arts and Sciences consists of some 220 full-time faculty members in the following departments, each offering work in specific undergraduate degree programs: anthropology, biology, chemistry, criminology and criminal justice, economics, English, foreign languages and literatures, history, mathematics and computer science, philosophy, physics and astronomy, political science, psychology, social work, and sociology.

Graduate study degree programs, administered through the Graduate School, are also offered in the following departments of the College of Arts and Sciences: biology, chemistry, criminology and criminal justice, economics, English, history, mathematics and computer science, physics and astronomy, philosophy, political science, psychology, social work, and sociology. An interdisciplinary master's degree in public policy administration is offered in cooperation with the College of Business Administration. Specific degree requirements for both undergraduate and graduate degree programs are described in the departmental sections which follow this general information on the college.

Requirements for Undergraduate Study

In addition to the university general education requirements, all majors in the College of Arts and Sciences must meet the following requirements:

To graduate, all majors in the college also must complete the following:

- Requirements of their chosen baccalaureate degree (i.e., B.A., B.S., B.M., etc.) in accordance with the policies of the College of Arts and Sciences, explained below.
- Requirements of the department for their selected major or interdisciplinary program.

Academic Policies

Grade Requirements

To graduate, all majors in the college must satisfy one of the following grade point options:

- Earn 120 graded hours with a C grade or better, which constitutes a complete degree program neither a grade of C- nor a satisfactory grade may be counted.
- Have a minimum UM-St. Louis campus grade point average of 2.0 and have met all other grade point restrictions for the degree or program.
- To expand cultural awareness, all students are required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or a comparable culture. A list of courses which satisfy this requirement can be found in the Introductory section of this Bulletin.

Residency Requirements

Unless otherwise specified, a transfer student must complete 12 hours of graded work at UM-St. Louis at the 100 level or above within the minimum number of hours required for each major.

Unless otherwise specified, a transfer student must complete at least six hours of graded work at UM-St. Louis at the 100 level or above within the minimum number of hours required for each minor. Students should consult the minor department for specific residency and grade requirements.

Specific Baccalaureate Degree Requirements

Course Requirements

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the bachelor's degree from courses (which the appropriate department has evaluated as being of university-level quality) from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, or interdisciplinary. Other areas or courses not listed require approval by the chair of the student's department.

Bachelor of Arts (B.A.)

All B.A. degree candidates must successfully complete a curriculum which includes a departmental major or an approved interdisciplinary field. A major must include at least 30 credit hours but no more than 45 hours. The College offers the B.A. degree in anthropology, biology, chemistry, economics, English, French, German, history, mathematics, philosophy, physics, political science, psychology, sociology, and Spanish.

Foreign Language Requirement. Candidates for the B.A. degree are required to complete 13 credit hours or the equivalent in proficiency in one foreign language. Foreign language guidelines are as follows:

1) Students entering with no high school language units must enroll in Language 1 or may enroll in the 115 series (see section 4).
2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption by passing the department's placement exam. The specific dates for the exam are announced in the Schedule of
Courses or may be obtained from the admissions office or the Department of Foreign Languages and Literatures. 3) Native speakers of language other than English may meet the foreign language requirement by presenting a transcript from a university or secondary school of their native country. The department will certify native speakers of those languages which are taught at the university. Those who are proficient in other languages must submit certification of competence to the college. 4) Language 115 a, b, and c (Intensive) will satisfy the foreign language requirement. 5) Students may not repeat, for either credit or quality points, an elementary course if they have already completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

Bachelor of Science (B.S.)
The College offers the B.S. degree in applied mathematics, biology, chemistry, biochemistry, computer science, criminology and criminal justice, economics, physics (with emphasis in applied physics, astrophysics, engineering physics, or medical physics), and sociology. The requirements are generally the same as for the B.A. degree with the following exceptions:
1) More credit hours in the major discipline may be counted toward satisfying the 120 hours needed for graduation. See departmental degree requirements for information.
2) Not all departments require foreign language proficiency. See departmental degree requirements for information.

Bachelor of Science in Public Policy and Administration (B.S.P.A.)
The B.S.P.A. degree program is administered through the Political Science Department and offers two emphasis areas. Public Administration emphasizes management in the public and nonprofit sectors. Public Policy allows focus on a particular policy area with attention to analytic training and research skills.

Bachelor of Social Work (B.S.W.)
The Department of Social Work offers the B.S.W. degree, stressing the scientific and applied aspects of social work.

Minors
A number of minors are available at UM-St. Louis. Some are offered by individual departments, while others, such as Classical Studies and Black Studies, are interdisciplinary in nature and involve a number of departments. The requirements for the various minors are listed in either the departmental or interdisciplinary sections of this Bulletin.

Special Programs
Certificate Programs
Graduate and undergraduate certificate programs are offered in biochemistry, biotechnology, gerontology, studies in religions, trauma studies, tropical and conservation biology, nonprofit organization management and leadership, women's and gender studies, and writing.

International Studies Certificate
In cooperation with College of Arts and Sciences, the Center for International Studies offers certificate programs in Africana, East Asian, European, Latin American, and International Studies. The college cooperates with the College of Business Administration and the Center for International Studies in offering the International Business Certificate.

Departmental Honors
Majors in the following departments may pursue departmental honors: biology, chemistry, economics, English, foreign languages and literatures, history, and political science.

Cooperative Education and Internship Programs
Cooperative education and internship programs are available for students seeking career-related employment while enrolled in school. These programs afford Arts and Sciences students an opportunity to gain practical experience and earn a substantial income. Co-ops and internships are administered through Career Services, 327 Millennium Student Center.

College of Arts and Sciences Extension
Credit courses are offered at off-campus locations through the continuing education branch of the College of Arts and Sciences. These courses are open to UM-St. Louis students and qualify for regular academic credit toward degrees in the college. In addition, noncredit courses are offered in a range of disciplines within the college.
Department of Anthropology

Faculty

Susan E. Brownell, Associate Professor*, Interim Chairperson
Ph.D., University of California-Santa Barbara
Michael Cosmopoulos, Hellenic Government-Karakas Foundation Professor of Greek Studies and Professor
Ph.D., Washington University
Jay Rounds, Des Lee Professor of Museum Studies*
Ph.D., University of California-Los Angeles
Sheilah Clarke-Ekong, Associate Professor*
Ph.D., University of California-Los Angeles
Margo-Lea Hurwicz, Associate Professor*
Ph.D., University of California-Los Angeles
Van A. Reidhead, Associate Professor*
Ph.D., Indiana University
Pamela Ashmore, Assistant Professor of Anthropology and Education
Ph.D., Washington University
Timothy E. Baumann, Assistant Professor
Ph.D., University of Tennessee-Knoxville
John Wolford, Assistant Museum Professor*
Ph.D., Indiana University
Patti Wright, Assistant Museum Professor*
Ph.D., Washington University
Paul Schoomer, Senior Lecturer
B.A., Washington University
Elizabeth Dinan, Lecturer
A.B.D., University of Illinois at Urbana-Champaign
Jacquelyn Lewis-Harris, Lecturer of Education and Anthropology
A.B.D., Washington University
John Kelly, Adjunct Associate Professor
Ph.D., University of Wisconsin-Madison

*members of Graduate Faculty

General Information

The aim of anthropology is to understand the cultural diversity of humans. For 100 years we have studied the cultures of the world, teaching people how to see themselves more clearly through those who are different from themselves and how to work with the underlying humanity that unifies all cultural differences.

Anthropology is the study of humans through all time and space. The discipline considers our struggle to adapt to and survive in the natural and social environments and to improve our lot in the face of perpetual change. Anthropologists teach how cultures evolve and the role of individuals and groups in the invention and perpetuation of cultural beliefs, behaviors, symbols, and systems. Anthropologists have accumulated in-depth knowledge of thousands of cultures and use this to understand better our own cultural beliefs, actions, and institutions, as well as those of people from other cultures. As the science of cultures, anthropology brings a powerful perspective to bear in understanding the emerging global order. Cross-cultural and evolutionary insights and knowledge help us envision how we can incorporate vast human diversity into a unified world order of peace, prosperity, justice, and opportunity.

Degrees and Areas of Concentration

A Bachelor of Arts in Anthropology is offered with a focus on applied and theoretical skills. The anthropology faculty are actively involved in cultural, archaeological, folkloric, and biological anthropology research at home and abroad.

Cultural Anthropology. Faculty are involved in research in St. Louis, Los Angeles, Ghana, South Africa, China, Japan, India, the Pacific, Papua-New Guinea, Australia, Native American communities, and monasteries in the United States. They encompass studies of student success in inner-city schools, health care choices of elder citizens, economic development, body culture, culture diversity principles, educational anthropology, evolution of consciousness, and more. With a large core of cultural anthropology faculty, opportunities abound for students to pursue diverse research experiences on a vast range of topics on human actions, beliefs and organization. Through its partnership with the College of Education, selected students are able to work with a team of anthropology and education faculty and students in the design and teaching of human origin and cultural diversity lessons for 3rd-12th grade school children and their teachers.

Archaeology. Faculty are involved in regional and global research of both New and Old World Cultures. Current projects include excavation of an 800-year-old ceremonial village site at Cahokia Mounds, Illinois; a mid-19th century pottery factory and postbellum African-American community in Arrow Rock, Missouri, and exploring the rise of state-level societies in and around the site of Pylas, Greece, a Bronze Age administrative center. The Department of Anthropology offers summer field schools where students learn excavations around the world through other institutions. Recent examples include archaeological studies in Egypt, Jordan, Belize, South Africa, and Malta. The department also has an archaeology lab and library with one of the largest extant collections of prehistoric and historical artifacts from eastern Missouri.

Folklore. Faculties are active in the study of the folklore of diverse communities in St. Louis and religious communities. Interests include how communities express their beliefs about who they are, and the ways that people use space and time markers to create and express identity. Interested students can pursue a wide range of independent research and study options in urban folklore.

Biological Anthropology: Faculty are active in the study of the behavior, ecology, and evolution of primates and of...
educational issues in the study of paleoanthropology (fossil record of human origins). Students have conducted original research at the St. Louis Zoo and have designed experiential lessons on human origin, fossil classification, and the foundations of human diversity for school children.

Student Experience. Students may work closely with faculty in designing their personal course of study and carrying out their own research projects in any of the above fields of study. Research results written by students have been presented at professional meetings, published, and presented to government and community agencies for use in planning and development. Students are encouraged to participate in the department's network of internships, providing an opportunity to practice newly acquired skills. As a capstone experience, all students, under faculty supervision, complete a significant independent research project for the Senior Seminar, culminating in written and oral reports to student colleagues and the faculty. The department encourages study abroad and in other regions of the United States and has scholarship funds to assist. There is an active Anthropology Club that sponsors an intercultural film series, speakers, and social activities.

Paid undergraduate positions are available on a competitive basis to anthropology majors as 1) Human Origin teaching lab assistants, 2) faculty research assistants, 3) human origin and cultural diversity lab teachers/facilitators working with school groups grades 3-12, and adults, and 4) staff intern/assistant at the St. Louis Art Museum.

Minor in Anthropology
The minor in anthropology is designed to offer students a flexible introduction to the fundamentals of the discipline to complement their major field of study. A minor is advisable for anyone planning a career with intercultural or international dimensions, where knowledge of cultural systems, environments, values, and symbols is useful.

Undergraduate Studies

General Education Requirements
Majors must satisfy the university and college general education requirements. Any foreign language may be used to meet the language requirement for the B.A. degree.

Degree Requirements

Bachelor of Arts in Anthropology
Six hours of credit will be accepted for courses taken on a satisfactory/unsatisfactory basis from any departmental elective. The statistics requirement may be taken on an S/U basis. All other required courses for the major must be completed with a grade of C- or better. The following courses are required:

- Anth 5(1005), Introduction to Biological Anthropology
- Anth 11(1011), Introduction to Cultural Anthropology
- Anth 19(1019), Introduction to Archaeology
- Anth 202(3202), Culture, Politics, and Social Organization
- Soc 220(3220), Sociological Statistics, or any other college level statistics course
- Anth 301(4301), Ideas and Explanations in Anthropology
- Anth 308(4308), Practicum in Cultural Research Methods

OR

- Anth 310(4310), Laboratory Methods in Archaeology
- Anth 315(4315), Senior Seminar
  - One archaeology area course in Anthropology numbered 100(2100)-199(2199).
  - One culture area course in Anthropology numbered 100(2100)-199(2199).
  - Two courses in Anthropology numbered 200(3200)-299(3299), in addition to 202(3202)

Students may elect to take up to, but not to exceed, 12 additional hours in anthropology courses of their choice.

All minor degree candidates must take:

- Anth 5(1005), Human Origins
- Anth 11(1011), Introduction to Cultural Anthropology
- Anth 19(1019), Introduction to Archaeology
- Anth 301(4301), Ideas and Explanations in Anthropology

OR

- Anth 308(4308), Practicum in Cultural Research Methods

OR

- Anth 310(4310), Laboratory Methods in Archaeology
  - One anthropology course at the 100-199 level.
  - One anthropology course at the 200-299 level.
  - One elective anthropology course at any level.

Grades of C- or better should be attained in all courses used to satisfy these requirements. One elective course taken on satisfactory/unsatisfactory basis may be applied toward the minor.

Career Outlook
The B.A. in Anthropology equips the student for employment in almost any area in which a bachelor's degree is sufficient and a sensitivity to cultural values and diversity is important. Graduates have found employment as university professors and lawyers and in anthropology research programs, urban development, planning programs, health care delivery, human services, many areas of business, government service, teaching, computer systems design, university administration, and many other areas. Anthropology is excellent preparation for graduate and professional training in administration, the helping professions, development work, law, environmental studies, international and human resource areas of business, and in many other areas, depending upon individual interests. Many UM-St. Louis anthropology graduates have gone on to advanced training in master's, doctoral, and professional programs in respected universities around the country. The employment forecast for people with M.A. and Ph.D. degrees in anthropology is good and is also good for bachelor degree graduates wishing to work in the business sector or to take advanced
degrees in related fields. For more career information, contact the department at 516-6020 for an appointment to talk with an appropriate faculty member or to request an information packet.

Course Descriptions
Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 05(1005), 11(1011), 15(1015), 19(1019), 20(2125), 21(1021), 25(1025), 29(1029), 33(1029), 41(1041), 91(1091), 109(2109), 110(2110), 111(2111), 113(2113), 114(2114), 117, 120(2120), 124(2124), 126(2126), 131(2131), 132(2132), 134(2134), 135(2135), 136(2136), 137(2137), 138(2138), 173(2173), 190(2190), 191(2191), 202(3202), 210(2120), 212(2125), 215(2125), 225(3225), 230(3230), 231(3231), 234(3234), 235(3235), 238(3238), 242(3242), 244(3244), 250(3250), 255, 286(3286), 290(3290), 291(3291), 301(4301), 308(4308), 309(4309), 310(4310), 315(4315), 350(4350), 391(4391).

The following courses satisfy the Cultural Diversity requirement: 11(1011), 21(1021), 25(1025), 29(1029), 33(1033), 41(1041), 91(1091), 110(2110), 111(2111), 113(2113), 114(2114), 120(2120), 123(2123), 124(2124), 131(2131), 132(2132), 134(2134), 135(2135), 136(2136), 137(2137), 173(2173), 191(2191), 235(3235), 238(3238).

05(1005) Introduction to Biological Anthropology (4)
Introduction to biological anthropology. Topics include evolutionary theory and its development, the evolution/creationist debate, Mendelian and population genetics, the evolutionary place of humans within the animal kingdom, anatomical and behavioral characteristics of primates, fossilization, primate evolution, the human evolutionary fossil record, biological variability in modern humans, race as a biological concept, and applied biological anthropology. In addition to 3 hours of lecture, 1 hour per week is spent in lab classifying ancient human fossils, observing monkeys and apes at the zoo, and doing other projects.

11(1011) Introduction to Cultural Anthropology (3) [V, SS, CD]
Cultural anthropology is the study of human beings as creatures and creators of society. This course is an introduction to that study which aims to demonstrate how the basic concepts and techniques developed by cultural anthropologists help us to understand societies of various degrees of complexity, including our own. We will consider topics such as language, kinship, gender, ethnicity, economics, politics, religion, and social change in a broad comparative framework. Major goals are an increased awareness of the social and cultural dimensions of human experience; the diversity and flexibility of human cultures; and processes of intercultural communication and conflict. This course satisfies the Cultural Diversity Requirement.

15(1015) Introduction to Folklore (3)
Introduces the basic concepts of folklore. Examines the connections between folklore as a discipline and anthropology as a discipline. Examines specific folk cultures both in Western societies and in non-Western societies. Emphasizes the view of folk culture as a dynamic part of modern as well as historical societies, with a constant focus on the human element that comprises the very heart and soul of culture.

19(1019) Introduction to Archaeology (3) [MI, SS]
Archaeology is a subfield of anthropology that studies past human societies from their material remains. Explores the development of archaeology as a scientific discipline. Archaeological methods and theories will be explained using case studies from the continents of Africa, Asia, Australia, Europe and the Americas.

20(2125) Introduction to Historical Archaeology (3)
An introductory course in the archaeology of historic period sites. The historic period refers to that portion of human history that begins with the appearance of written documents and continues to contemporary societies. This course will discuss the development, research strategies and future goals of historical archaeology. Archaeological examples will come from all populated continents, but will concentrate on the Americas including the Colonial towns of Jamestown and Williamsburg. Deep South plantations, Civil War battlefields, and shipwreck sites like the Titanic.

21(1021) The Body in Culture (3) [CD]
This course will compare uses of the body as a social signifier in Western and non-Western cultures. It will explore how culture shapes the images, uses, and meanings of the human body. It concentrates on different historical and cultural beliefs in five areas: how the body works; sex and gender; eating manners and food; pain and punishment; beauty and bodily mutilation.

25(1025) World Cultures (3) [V, SS, CD]
An ethnographic survey of the major culture areas of the world (Africa, Asia, North and South America, Europe, and Oceania).

29(1029) Cultural Diversity Through Literature (3) [CD]
This course emphasizes the application of anthropological concepts to literary works to gain greater understanding of the richness and the relative validity of the expressions of people from a wide variety of geographical, ethnic, religious, and cultural backgrounds. Both male and female writers will be covered, and both male and female-oriented works will be read.
33(1033) World Archaeology (3) [MI, SS, CD]
Discuss some of the greatest discoveries in archaeology from prehistoric cultures to ancient civilizations of Africa, Asia, Australia, Europe, and the Americas. Archaeological examples may include early human origins at Olduvia Gorge in Tanzania, the pyramids of ancient Egypt, the Maya and Aztec of Mexico, the rise of civilization in Mesopotamia, England's Stonehenge, the Roman city of Pompeii, upper Paleolithic cave paintings in France and Spain, and American Indian pueblos of the Southwest. This introductory course is designed for non-anthropology majors, or for those who are considering the major examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments.

113(2113) Cultures of South Asia (3) [CD]
An ethnographic and historical survey of the various people of South Asia including India, Pakistan, Afghanistan, Bangladesh, Sri Lanka, Tibet, and Nepal. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments.

114(2114) Cultures of the Near and Middle East (3) [CD]
A study of the cultural diversity and unity of the peoples of the Near and Middle East. Emphasis on historical and ethno-logical relationships, social and political structure, religious beliefs, and contemporary problems.

117(2117) The Culture and Civilization of Ancient Greece (3)
This course examines the culture and civilization of Greece from prehistory to the Byzantine Empire (ca. 100,000 BC-AD 400). Its goal is to provide an overview of the most important aspects of early Western civilization. The course covers ancient Greek society, economy, geography, politics, and warfare. Also, it examines the Greek roots of Western humanism through a cultural analysis of the literature, philosophy, and art of the Greeks. Special attention is given to the Golden Age of Greece (5th - 4th centuries BC) and to the impact of Greek culture on Western civilization.

120(2120) Native Peoples of North America (3) [CD]
A survey of the aboriginal cultures of Native Peoples of North America, including prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of North American cultures.

123(2123) Cultures of Oceania (3) [CD]
An introduction to the original cultures and peoples of the South and Western Pacific: New Guinea, Australia, New Zealand, Samoa, Hawaii, Easter Island, etc. Focus is on art, religion, language, relationships to the environment, economics, politics, social groupings, and how these intertwine to form distinctly adaptive cultures in one of the least understood regions of the world.

124(2124) Cultures of Africa (3) [CD]
A basic ethnographic survey of African cultures, with attention to social groupings, ethnicity, religion, language and social change, and the ecological relationship between humans and nature.
126(2126) Archaeology of Greater St. Louis (3)
Discussion of Ice Age hunters and gatherers, moundbuilders, fur traders, farmers and industrial workers from the history of the Greater St. Louis Community. The physical testimony to their lives remains buried beneath the city streets and buildings. Archaeology is our link to this cultural legacy. Through the use of archaeological data and historical sources, this class will explore human social and cultural developments in St. Louis.

131(2131) Archaeology of Missouri (3) [CD]
An introduction to the prehistoric American Indian cultures of Missouri and adjacent areas from 20,000 years ago to the coming of Europeans. Examines the development of prehistoric cultures in Missouri from small bands of hunters and gatherers to moundbuilding, agricultural societies and discusses the decline of indigenous cultures as they came into contact with European civilization.

132(2132) Archaeology of North America (3) [CD]
Examines the archaeological record of human developments throughout prehistoric North America. Topics of discussion include the origins of human culture in America, the processes of prehistoric cultural development in the different regions of the continent, and archaeological approaches to explaining the behavior of North America's prehistoric inhabitants.

134(2134) Archaeology of the Inca, Aztec, and Maya (3) [CD]
Provides an overview of human social and cultural developments in Mesoamerica and Andean South America, from the first settlements over 20,000 years ago to the Spanish Conquest. Focuses on events leading to and including the establishment of Classic Maya and Aztec societies, and discusses changes that led to what was perhaps the largest nation on earth for its time, the Inca.

135(2135) Old World Archaeology (3) [CD]
Examines the long and rich archaeological record of the Old World (Africa, Europe, Asia, Australia, and Oceania). Various topics and cultures of the Old World will be discussed from the earliest human ancestors to the rise and fall of complex societies.

136(2136) Archaeology of East Asia (3) [CD]
Discusses the development of cultures of China, Japan, and Korea from the most ancient origin of humans in the region to the rise of early Chinese Dynastic states. Discoveries from archaeological excavations will be explored emphasizing China.

137(2137) Archaeology of Africa (3) [CD]
Examines the archaeology of Africa from pre-historic times up to the period of European contact (ca. A.D. 1700). Explores the diversity of the past African environments and cultures. It will deal with important archaeological issues such as the history and practice of African archaeology, the role of the environment in the development of technology, art, architecture, trade relations and statehood in Africa.

138(2138) African-American Archaeology (3) [CD]
This course examines people of African descent in the New World through archaeology. Class lectures will outline the development, research strategies and goals of African-American archaeology using examples from the colonial slave trade to the 20th Century. Specific topics include foodways, architecture, spirituality, health, ethnicity, acculturation/creolization, status, racism and gender.

173(2173) Archaeology and Cultures of the Biblical World (3) [CD]
A survey of the cultures of the Old Testament World with attention to their evolution, internal and external relationships, as well as their diverse religious, social, economic, and political institutions. The instructor will teach skills in evaluating popular vs. scientific and historical evidence of Biblical events.

190(2190) Special Topics in Archaeology (3)
Discusses varying cultural areas from an archaeological perspective. May be repeated with consent of department. Satisfies the Cultural Diversity requirement only when the topic is a Non-Western Culture.

191(2191) Special Topics in Non-Western Cultures (3) [CD]
This course focuses on a specific non-western culture, or geographically related groups of cultures. Ethnographic and/or archaeological cultures are chosen and their ecological, economic, social, religious, cosmological, political, ethnic, linguistic and other cultural domains are examined. Students are exposed to basic concepts and knowledge for understanding diverse cultures in their historical and/or contemporary contexts of development and relationship. Topics will vary.

202(3202) Culture, Politics and Social Organization (3)
Prerequisite: Anthropology 11 (1011) or introductory course in another social science, or consent of instructor. A survey of political organizations and processes with emphasis on native and non-Western cultures. Included are topics such as strategies for obtaining and maintaining power, ethnicity, nationality, and the relationship of ideology to politics.

210(3210) Applied Anthropology (3)
Prerequisite: Anthropology 11 (1011), or introductory course in another social science, or consent of instructor. A description and analysis of methods, principles, and use of anthropology in solution of problems associated with the changing conditions of our times. The course will examine a wide variety of cross-cultural case studies.
212(3212) Medical Anthropology (3)
Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of instructor. An examination of the growing interaction between anthropology and medicine, and the increasing use of anthropologists in medical and health-care settings. In addition to teaching current theory in medical anthropology, the course focuses on anthropologically based skills essential to those working in health-related fields.

215(3215) Growing Old in Other Cultures (3)
(Same as Gerontology 215(3215).) This course examines the wide-ranging variability in the roles of older people across different cultures and the effects these have on older people, their families, and their societies.

225(3225) Myth, Ritual, and Death: the Archaeology of Religion in Greece (3)
Prerequisites: Anthropology 19(1019) or consent of instructor. This course examines the myths, rituals, and religious beliefs of the ancient Greeks. It aims at providing an in-depth knowledge of the Greeks' understanding of life, death, and the supernatural by examining the relevant archaeological, literary, and artistic evidence. Specifically, the course analyzes Greek mythology, religion, and society through the fascinating archaeological discoveries at major Greek sites (Acropolis, Olympia, Mycenae, Delphi, Pylos, Knossos, and Troy) and the relevant evidence from Greek poetry, tragedy, and the visual arts.

230 (3230) Method and Theory in Prehistoric Archaeology (3)
Prerequisites: Anthropology 19(1019) or consent of instructor. An advanced course emphasizing the various theories and methods employed in prehistoric archaeological research. Archaeological theories and methods will cover diffusion, cultural ecology, seasonality, plant and animal domestication, subsistence, settlement patterns, spatial analysis, ethnography, artifact analysis, seriation, dating techniques, remote sensing, and others. Requires substantial reading and writing.

231(3231) Method and Theory in Historical Archaeology (3)
Prerequisites: Anthropology 19(1019), 20(1225), or consent of instructor. An advanced class in archaeological method and theory concerning historical period sites. Requires substantial reading and writing and covers a broad range of theoretical and methodological approaches. Theoretical paradigms will include functionalism, middle range theory, evolutionary theory, and public archaeology. Methodological topics will include pattern analysis, architectural archaeology, urban archaeology, subsistence studies, and others.

234(3224) Cultural Continuity and Change in Sub-Saharan Africa (3)
Prerequisite: Anthropology 11(1011) or intro course in another social science or consent of instructor. This course is intended to examine cultural phenomena within Africa from the 19th century to the present. Our goal will be to reach an understanding of continuities and change in the existing universal social institutions. A thematic approach will include discussions on kinship; geo-politics; natural and supernatural forces; gender relations; economics in the world economy; and prospects for the future. Ethnographic and other supporting social scientific resources gathered from African peoples will be investigated. Problems and accomplishments are both reviewed so as to acknowledge the complexity of contemporary African societies. Student discussion is encouraged.

235(3235) Women in Subsaharan Africa: A Contemporary Perspective (3) [CD]
Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of the instructor. Examines important traditional concerns of anthropologists such as the nature of kinship obligation and privilege; gender as a basis for the division of labor; social organization for formal and informal networks; and ritual and ceremony. In addition we look closely at the changing role of African women, as related by African women testing the very limits of what is "socially and culturally acceptable." The roles women continue to play in politics, comprehensive development (i.e., cultural and economic) and evolving social structures are reviewed to gain an understanding of the historical and contemporary mandates for their social action.

238(3238) Culture and Business in East Asia (3) [CD]
Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of the instructor. This course looks at the influence of local history and culture on the course of economic development in Mainland China, Taiwan, Hong Kong, Japan and North and South Korea. This course will consider how East Asia has departed from the Western model of modernization and will look at the clash of cultures as Western corporations try to do business in East Asia. The course will analyze the role of family, kinship, and social hierarchy in shaping East Asian business practices. The largest part of the course will be devoted to Mainland China.

242(3242) The Culture of Cities (3)
Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of instructor. A comparative analysis of the cultural roles of urban centers and the processes of urbanization in non-Western and Western societies, past and present. A consideration of urban influences on rural America and the traditional peasant and primitive peoples of Africa, Asia, and Latin America.
244(3244) Religion, Magic, and Science (3)
Prerequisite: Anthropology 11, or introductory course in another social science, or consent of the instructor. A consideration of the roles of religion, magic, and science in culture and social organization.

250(3250) American Folklore (3)
Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of the instructor. Focuses on United States society from humanistic and cultural viewpoints. Operates under the basic definition of folklore as "artistic communication in small groups," and thus embraces the idea of folklore as an ongoing creative process combining the conservative elements of tradition with the dynamic aspects of cultural creation. Comparing United States folklore with that from the borderlands of Canada and Latin America, the course will use fieldwork and concepts in folkloristics to focus on folklore genres (such as narratives, arts, crafts, architecture, oral history, and others) and folk groups (such as ethnic populations, age groups, gender groups, occupations, college students, and others).

255(3255) Oral History and Urban Culture in St. Louis (3)
Prerequisites: Anthropology 11 or instructor's consent. This course involves students in background research and active fieldwork in urban anthropology within the metropolitan area. The focus will be on learning and applying oral history techniques in the city of St. Louis and its neighborhoods. Students will conduct in-depth fieldwork in one city neighborhood. They will learn fieldwork methodologies and how to conduct social, cultural, and historical research in preparation for fieldwork. This includes learning to research, conduct, and process interviews. They will also learn to work in teams to construct a group project to be presented to the class.

286(3286) Society, Arts, and Popular Culture (3)
(Same as Sociology 286(3286).) Prerequisite: Sociology 10(1010) or Anthropology 11(1011). The relationship of artists, writers, and musicians; their traditions and modes of artistic expression to variant social structures and institutions; and social pressures and rewards.

290(3290) Advanced Topics in Archaeology (3)
Prerequisites: Anthropology 19(1019), or consent of instructor. Selected topics in archaeology with a strong theoretical and methodological approach. Requires substantial reading and writing. May be repeated with consent of department.

291(3291) Current Issues in Anthropology (3)
Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated provided topic is different.

301(4301) Ideas and Explanations in Anthropology (3)
Prerequisite: Anthropology 11(1011) or consent of instructor. Major developments in anthropological explanations of social and cultural behavior through intensive reading and discussion of source materials.

308(4308) Practicum in Cultural Research Methods (4)
Prerequisites: One course in statistics and Anthropology 11(1011), or consent of instructor. (With computer laboratory.) Emphasizes hands-on training in techniques for both the collection and analysis of ethnographic data, including participant observation, selection of ethnographic informants, key informant interviewing, and more systematic methods such as survey research. The use of computer programs for the development of protocols to collect, analyze, and display data will be covered in lab.

309(4309) Archaeological Field School (3-6)
Prerequisite: Consent of instructor. Advanced methods in field archaeology and laboratory analysis. Emphasis is placed on sampling, the use of theory in guiding field and laboratory work, advanced field techniques, and specialty analysis. Opportunities are provided for the development of field and laboratory leadership skills. Independent research is encouraged.

310(4310) Laboratory Methods in Archaeology (4)
Prerequisite: Anthropology 19(1019), Soc 220(3220) or equivalent, or consent of instructor. An Advanced laboratory analysis and curation methods class. The emphases are (1) mastery of general lab methods and procedures, and (2) development of independent analysis skills in one or more specialty areas such as lithics, ceramics, computer graphics, statistical methods, paleoethnobotany, experimental analysis, and soils.

315(4315) Senior Seminar in Anthropology (3)
Prerequisite: Anthropology 308(4308) or 310 (4310) or consent of instructor. The capstone course for anthropology majors, ideally taken in the final semester of the senior year. Students write a research proposal, conduct an original research project, write it up as a senior thesis, and present the thesis before the department.

325(4325) Internship in Cultural Anthropology (1-3)
Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Cultural Anthropology internships are aimed at providing students with opportunities to learn to apply their knowledge of social and cultural process and diversity to practical situations in the market place of ideas, goods, and services. Specific placements will be selected to match a student's interests and career goals.
326(4326) Internship in Archaeology (1-6)
Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Archaeology internships are aimed at providing students with opportunities to work with professional archaeologists in public and private research environments including laboratories and curation centers. Specific placements will be selected to match a student's interests and career goals.

327(4327) Internship in Folklore (1-3)
Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution. Folklore internships are aimed at providing students with opportunities to work with professional folklorists and anthropologists in an applied setting. Further, it allows a student to devote an entire semester to produce a viable fieldwork report. Specific placements will be selected to match a student's interests and career goals.

328(4328) Internship in Museum Studies (1-3)
Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate museum or other exhibition oriented institution. Museum internships are aimed at providing students with opportunities to work with professional museologists to learn skills relating to areas such as exhibition, curation, public programming, research, and publication. Specific placements will be selected to match a student's interests and career goals.

329(4329) Internship in Physical Anthropology (1-3)
Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate museum or research setting related to forensics, primate behavior and biology, human genetics, population, environmental policy, and other domains related to physical anthropology.

350(4350) Special Study (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, or field research. No student may take more than a cumulative total of 6 hours of Special Study.

39(4391) Current Issues in Anthropology (1-4)
Prerequisite: Anthropology 11(1011) or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated. (Non-majors may register in Anthropology 19(1019).)

428(5428) Culture and Business in East Asia (3)
Prerequisite: Advanced Undergraduate or Graduate standing and one course on East Asia. This course looks at the influence of the local history and culture on economic development of Mainland China, Taiwan, Hong Kong, Japan and North and South Korea. This course will consider how East Asia has departed from the Western model of modernization and will look at the clash of cultures as Western corporations try to do business in East Asia. The course will analyze the role of family, kinship, and social hierarchy in shaping East Asian business practices. The largest part of the course will be devoted to Mainland China. This course fulfills the Cultural Diversity requirement. This course is taught at Washington University for the Joint Center on East Asian Studies.

435(6135) Foundations of Museology I (3)
Prerequisite: Consent or Director of Museum Studies Program. (Same as Art 435 and History 435.) Concepts for understanding museums in their social and cultural context; history of museums; museology and general social theory; information transfer vs. meaning-making models; museums and communities; the changing role of museums; museums as complex organizations; process models of museology.

436(6136) Foundations of Museology II (3)
Prerequisite: Anthropology 435(6135) and consent of Director of Museum Studies Program. (Same as Art 436 and History 436.) Audience-centered approaches to museology; visitor research and learning theory; philosophical and practical considerations in museum planning; the physical design of museums; creativity; exhibit and program development; collections and curation; the challenge of diversity; the future of museums.

437(6137) Effective Action in Museums (3)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 437(6037) and History 437(6137).) The nature of the work done in museums; how museums are organized to accomplish this work; professional roles and practices; technology and resources used by museums, skills for creative and effective leadership in project management and administration in museums; planning, flow charting, budgeting, team dynamics, and related skills. The course will include several site visits to area museums and guest lectures by a variety of museum professionals.

438(6138) Museum Studies Master's Project (4)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 438(6038) and History 438(6138).) Research and writing/exhibit development on a selected topic.
439(6139) Practicum in Exhibit and Program Development (3)
Prerequisite: Consent of Director of Museum Studies Program. Development of exhibits and related education programs. Students work as teams with museum professionals to develop and implement an exhibit concept that integrates design, education and marketing from the onset. Methods in planning, flow charting, budgeting, team dynamics and related skills.

440 Cultural Aspects of Aging (3)
Prerequisite: Graduate status or consent of instructor (Same as Gerontology 440(5440).) Focuses on the variety of solutions encountered in different sociocultural contexts for dealing with the problems, challenges and opportunities of growing old. It is organized around topics that are of concern to both anthropology and social gerontology: the status of the aged, intergenerational relations, aging in modernizing societies, ethnic dimensions of aging in complex societies, health in later life, death and dying. Both in-depth case studies and cross-cultural comparisons are examined in an effort to arrive at a culturally informed assessment of factors affecting aging and the aged in the United States.

491 Gender, Ethnicity, and Nationalism (3)
This course considers contemporary theories and case studies on the cultural construction of collective identity and difference, concentrating on the issues of gender, ethnicity, and nationalism. Of particular concern is the relationship between culturally constructed social groups (divided by gender, race, or nationality) and the distribution of power. Case studies are selected from both North American and world cultures.
Department of Biology

Faculty

Patricia G. Parker, E. Desmond Lee Professor of Zoological Studies*, Chairperson
Ph.D., University of North Carolina, Chapel Hill

Elizabeth A. Kellogg, E. Desmond Lee Professor of Botanical Studies*
Ph.D., Harvard University

Charles R. Granger, Distinguished Teaching Professor*
Ph.D., University of Iowa

Robert E. Ricklefs, Curators Professor*
Ph.D., University of Pennsylvania

Arnold B. Grobman, Professor Emeritus*
Ph.D., University of Rochester

James H. Hunt, Professor*
Ph.D., University of California-Berkeley

Robert J. Marquis, Professor*
Ph.D., University of Iowa

Frank Moss, Professor*
Ph.D., University of Virginia

Susanne S. Renner, Professor*
Dr. Habil; Dr. rer. Nat, University of Hamburg

Martin Sage, Professor Emeritus*
Ph.D., Nottingham University

Peter F. Stevens, Professor*
Ph.D., Edinburgh

Zuleyma Tang-Martinez, Professor*, Director Graduate Program
Ph.D., University of California-Berkeley

Teresa Thiel, Professor*; Associate Dean, Arts and Sciences
Ph.D., Case Western Reserve University

Lon A. Wilkens, Professor*
Ph.D., Florida State University

Shirley T. Bissen, Associate Professor*, Director Biotechnology Program
Ph.D., University of Michigan

John G. Blake, Associate Professor*
Ph.D., University of Illinois

Godfrey R. Bourne, Associate Professor*
Ph.D., University of Michigan

Albert Derby, Associate Professor Emeritus*
Ph.D., City University of New York

Harvey P. Friedman, Associate Professor*
Ph.D., University of Kansas

Lawrence D. Friedman, Associate Professor Emeritus*
Ph.D., University of Wisconsin

Donald E. Grogan, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia

Bette A. Loiselle, Associate Professor*; Director, International Center for Tropical Ecology
Ph.D., University of Wisconsin

Jane A. Starling, Associate Professor*
Ph.D., The William Marsh Rice University

Wendy M. Olivas, Assistant Professor*
Ph.D., University of Nebraska Medical Center

Marc Spingola, Assistant Professor*
Ph.D., University of New Mexico

Mariette P. Baxendale, Lecturer
Ph.D., Saint Louis University

Carol Weber, Lecturer
M.S., University of Missouri-St. Louis

Terry L. Erwin, Research Professor*
Ph.D., University of Alberta

Peter H. Raven, Research Professor*; Director, Missouri Botanical Garden,
Ph.D., University of California-Los Angeles

M. Jan Salick, Research Professor*
Ph.D., Cornell University

Ihsan A. AlShehbaz, Research Associate Professor*
Ph.D., Harvard University

Bruce Allen, Research Associate Professor*
Ph.D., University of Cincinnati

Eldridge Birmingham, Research Associate Professor*
Ph.D., University of Georgia

Steven P. Churchill, Research Associate Professor
Ph.D., City University of New York

Deborah A. Clark, Research Associate Professor*
Ph.D., University of Wisconsin

David B. Clark, Research Associate Professor*
Ph.D., University of Wisconsin

Thomas B. Croat, Research Associate Professor*
Ph.D., University of Kansas

Peter Goldblatt, Research Associate Professor*
Ph.D., University of Cape Town, South Africa

Peter E. Hoch, Research Associate Professor*
Ph.D., Washington University

Peter M. Jorgensen, Research Associate Professor
Ph.D., Aarhus University

Timothy Killeen, Research Associate Professor*
Ph.D., Iowa State University

Robert E. Magill, Research Associate Professor*
Ph.D., Texas A&M

David A. Neill, Research Associate Professor*
Ph.D., Washington University

Charlotte Taylor, Research Associate Professor*, Ph.D., Duke University

Hendrik H. van der Werff, Research Associate Professor*
Ph.D., State University of Utrecht, The Netherlands

George A. Yatskievych, Research Associate Professor*
Ph.D., Indiana University, Bloomington

James L. Zarucchi, Research Associate Professor
Ph.D., Harvard

Stanton Braude, Research Assistant Professor*
Ph.D., University of Michigan

James S. Miller, Research Assistant Professor*
Ph.D., Saint Louis University

Peter M. Richardson, Research Assistant Professor*
Ph.D., University of London

George E. Schatz, Research Assistant Professor*
Ph.D., University of Wisconsin-Madison

Maria Del Carmen Ulloa Ulloa, Research Assistant Professor
Ph.D., Aarhus University
Guanghua Zhu, Research Assistant Professor*
Ph.D., University of Missouri-St. Louis
Cheryl S. Asa, Research Assistant Professor*
Ph.D., University of Wisconsin-Madison
Mary E. Yurlina, Research Assistant Professor
Ph.D., Rutgers University
Kimberlie A. McCue, Adjunct Assistant Professor*
Ph.D., University of Missouri-Columbia
Patrick L. Osborne, Adjunct Associate Professor,
Associate Director, ICTE,
Ph.D., East Anglia
Terry Jo Gile, Affiliate Assistant Professor; Jewish
Hospital College of Nursing and Allied Health
M.A., Central Michigan University
Linda J. McCown, Affiliate Assistant Professor; Jewish
Hospital College of Nursing and Allied Health
M.S., University of Pittsburgh
David F. Russell, Affiliate Assistant Professor
Ph.D., University of California-San Diego
Michael D. Ward, Affiliate Assistant Professor, Director,
Allied Health Programs, Jewish Hospital College of
Nursing and Allied Health
Ph.D., Saint Louis University
Donna Duberg, Adjunct Lecturer; Chair CLS Program,
Jewish Hospital College of Nursing and Allied Health
M.S., Michigan State University
Linda Hoechst, Adjunct Lecturer
M.A., Webster University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration
The Department of Biology provides academic programs
leading to the B.A. or B.S. in Biology. In cooperation with
the College of Education, the department offers the B.S. in
Secondary Education with a major in biology and the B.A.
or B.S. in Biology with teacher certification. It also offers
graduate work leading to the Master of Science and the
Doctor of Philosophy degrees in Biology. The graduate
program includes a cooperative program with the Missouri
Botanical Garden for students who concentrate in
evolutionary biology with emphasis areas of plant
systematics and environmental studies.

Biology faculty members are engaged in teaching and
research in areas ranging from molecular biology to
population studies. Majors have the chance to take courses
which help them develop both theoretical and experimental
backgrounds necessary for further work in some of the
most rapidly expanding fields of biological science or to
pursue in-depth studies in specific areas through advanced
courses, seminars, and individualized research programs.

Departmental Honors
Candidates for the B.A. or B.S. degree are eligible for
departmental honors if they:

1) Have a minimum of 3.2 overall GPA and a minimum
3.2 average in biology courses used to complete the major.
2) Complete a minimum of 2 credit hours of Biology
390(4905), Research.
3) Complete an honors thesis based on Biology 390(4905)
research work. The Honors Committee will evaluate the
academic record and thesis, and those students who qualify
will be recommended for honors.

Minor in Biology
Students majoring in another discipline may earn a minor
in biology by completing a prescribed course of study.
Unique programs can be developed to coordinate with
special career objectives.

Graduate Studies
The Department of Biology offers graduate work leading
to the M.S. and Ph.D. degrees in biology. Graduate
students may work toward an M.S. or Ph.D. degree in
three broad areas of biology: a) cellular, molecular, and
developmental biology, b) physiology and organismal
biology, and c) ecology, evolution, and systematics.
Students in the M.S. and Ph.D. programs also have the
opportunity to do their graduate work in collaboration with
scientists at the Missouri Botanical Garden or the Saint
Louis Zoo through a cooperative graduate program.

Objectives of the master's degree program are to provide
research-oriented training necessary for students to
enter doctoral programs in biology; to develop professional
biologists qualified to function in responsible technical
positions; and to train secondary school and junior college
biology teachers.

The objectives of the Ph.D. program are to train biologists
for academic and professional positions in research and
teaching. Ph.D. students in the areas of plant systematics
and environmental studies have the opportunity for
specialized training in tropical biology and conservation
biology. This training prepares students for research
careers and for leadership and scientific positions
involving the conservation and management of tropical
ecosystems. Ph.D. students in cellular, molecular and
developmental biology will receive training in research
techniques appropriate for careers in academic or industrial
laboratories.

Graduate Assistantships
Stipends for teaching and research assistantships are
awarded on a competitive basis to qualified graduate
students in master's or Ph.D. programs. Out-of-state
educational fees are waived for graduate assistants.
Applications for assistantships must be sent to
the Director of Graduate Studies in the
Department of Biology and be received by
December 15.
Facilities
Department facilities include research and teaching laboratories, environmental chambers, greenhouses, and a large array of supporting modern research instrumentation. Graduate research can be pursued using facilities of the Missouri Botanical Garden or the Saint Louis Zoo. Several sites within an hour of campus are suitable for regional field studies, including state parks, wildlife conservation areas, and Washington University's Tyson Research Center. UM-St. Louis is a member of the St. Louis University Research Station Consortium that operates Lay and Reis Field Stations in Missouri and it also holds membership in the Organization for Tropical Studies, which operates three field stations in Costa Rica. CEIBA Biological Centre in Guyana has hosted several UM-St. Louis courses and student researchers. Student researchers work independently at research stations throughout the tropics.

Cooperative Programs
The department participates in a cooperative consortium program in biology with Washington University, Saint Louis University, Southern Illinois University-Edwardsville, and the Missouri Botanical Garden.

Undergraduate Studies

General Education Requirements
Students must satisfy the university and college general education requirements. Biology courses may be used to meet the science and mathematics requirement of the university.

The foreign language requirement of the College of Arts and Sciences fulfills the departmental requirements for the B.A. degree. There is no foreign language requirement for the B.S. degree.

Satisfactory/Unsatisfactory Option
Up to 18 credit hours may be taken on a satisfactory/unsatisfactory (s/u) basis. Excluded from this option are required courses in chemistry, physics, mathematics, or psychology, and biology courses other than Biology 389(4889), Senior Seminar, and Biology 390(4905), Research.

Degree Requirements

Bachelor of Arts in Biology
The B.A. degree provides maximum flexibility for biology majors to pursue an undergraduate liberal arts course of study that can lead to professional careers in medicine, allied health, public and environmental health, law, and graduate studies in the life sciences. Candidates must have a cumulative grade point average of 2.0 or better in biology courses. All B.A. degree majors must take at least 39 credit hours but not more than 50 hours in appropriate biology course work. The following biology foundation courses must be included in the 39 credit hours.

Foundation Courses
11(1811), Introductory Biology I
12(1821), Introductory Biology II
224(2012), Genetics
232(3622), Cell Structure and Function
246(3302), Introduction to Evolution
371(4712), Biochemistry
389(4889), Senior Seminar, or 285(4985) and 286(4986) for those seeking teacher certification.

Lecture Course Requirements. An additional three biology lecture courses, at the 200 level or higher, are required. At least one of the courses must be at the 300-level. Biology 327(4614), 371(4712), 389(4889), and 390(4905) cannot be used to fulfill the 300-level course requirement.

Laboratory Course Requirements. In addition to the lecture course requirements, three biology laboratory courses at the 200 level or higher will be required. They may be taken from any of the lecture-laboratory or laboratory courses offered. Introductory Biology, General Biology, and Biology 390(4905) laboratories cannot be used to fulfill this requirement. Students may substitute Chemistry 373(4733) for Biology 375(4713) to satisfy one of these laboratory course requirements, but students may not use both Biology 375(4713) and Chemistry 373(4733) to fulfill this requirement.

Off-campus transfer students must satisfactorily complete at least 12 credit hours of UM-St. Louis biology course work (including two laboratories) at the 200 level or above before receiving a B.A. degree from the College of Arts and Sciences with a major in biology.

Basic Skills Requirement
Certain skills outside the biology subject matter are needed by a well-rounded biologist. The basic skills requirement is designed to provide the student with a background in communication skills and knowledge in associated science areas.

1) Communication Skills. Courses in foreign languages and in writing are required for development of the basic communication skills needed to transmit scientific information. The following satisfy this requirement:

Foreign Language
The foreign language requirement of the College of Arts & Sciences fulfills the departmental requirements for general communication skills for the B.A. degree in biology.

Writing
Eng 210(3100), Advanced Expository Writing or Eng 216(3160), Writing in the Sciences (strongly preferred)
2) Associated Science Area. The following courses or their equivalents must be successfully completed in science areas related to biology:

The following courses in chemistry are required:

11(1111), Introductory Chemistry I or 1(1082), General Chemistry I, plus 9(1091), General Chemistry II 12(1121), Introductory Chemistry II 261(2612), Structural Organic Chemistry I and one of the following chemistry courses:
122(2223), Quantitative Analysis 262(2622), Organic Chemistry II 263(2633), Organic Chemistry Laboratory

Also required:
Math 30(1310), College Algebra, and Math 35(1035), Trigonometry Statistics 31(1310), Elementary Statistical Methods or Statistics 132(1320), Applied Statistics I, or Educ 330(5730), Educational Statistics, or Psy 201(2201), Psychological Statistics, or Biol 388(4122), Biometry Math 100(1100), Basic Calculus or Math 80(1800), Analytical Geometry and Calculus Phys 11(1011), Basic Physics Phys 12(1012), Basic Physics

Bachelor of Science in Biology
The B.S. degree in biology is designed to prepare students for basic technical positions and graduate studies in the life sciences. Candidates for the degree have the same foundation courses and general education requirements as those seeking the Bachelor of Arts degree. In addition, certain minimal requirements in depth of study, laboratory experience, research, data processing, communication skills, and background in associated science areas, are required.

There is no foreign language requirement for the B.S. degree. However, students should realize that the literature for biological studies is in many different languages and the ability to extract information from this literature is an important skill.

To fulfill the requirements for the B.S. degree a minimum of 46 hours but not more than 50 hours must be completed in appropriate biology course work. A minimum of 17 hours in biology (including three laboratory courses) must be completed at UM-St. Louis. Candidates must have a cumulative grade point average of 2.0 or better in biology courses.

Foundation Courses. All candidates for the B.S. degree must successfully complete the same basic courses as those for the B.A degree.

Lecture Course Requirements. An additional four biology lecture courses, at the 200 level or higher, are required. At least two of the courses must be at the 300 level. Selection of the 300 level courses should reflect the career interest of the student, and at least one of the courses should be in a topic area that could lead to an independent research project (Biology 390(4905), Biology 327(4614), 371(4712), 389(4889), and 390(4905) cannot be used to fulfill this requirement.

Laboratory Course Requirements. A minimum of five biology laboratory courses at the 200 level or higher must be taken to satisfy the Bachelor of Science requirements. They may be taken from any of the lecture-laboratory or laboratory courses offered. Introductory Biology, General Biology, and Biology 390(4905) laboratories cannot be used to fulfill this requirement. Students may substitute Chemistry 373(4733) for Biology 375(4713) to satisfy one of these laboratory course requirements, but students may not use both Biology 375(4713) and Chemistry 373(4733) to fulfill this requirement.

Basic Skills Requirement
Certain skills outside the biology subject matter are needed to function adequately in a research environment. The basic skills requirement is designed to provide the student with a background in data processing and communication and knowledge in associated science areas.

1) Data Processing: Students must show a basic understanding of mechanisms for handling data by successfully completing one course in each of the following sets:

Set A. Statistics
Statistics 31(1310), Elementary Statistical Methods, or Statistics 132(1320), Applied Statistics I, or Educ 330(5730), Educational Statistics, or Psych 201(2201), Psychological Statistics, or Biol 388(4122), Biometry

Set B. Computer Science
CompSci 101(1010), Introduction to Computers and the Internet, or CompSci 125(1250), Introduction to Computing or Bus 103(1800), Computers and Information Systems

2) Communication Skills Courses in formal speaking and writing are required for development of the basic communication skills needed to transmit scientific information. The following courses satisfy this requirement:

Communication
Comm 40(1040), Introduction to Public Speaking

Writing
Eng 210(3100), Advanced Expository Writing or
Eng 216(3160), Writing in the Sciences (strongly preferred)

3) Associated Science Area: The following courses or their equivalents must be successfully completed in science areas related to biology:

- Phys 11(1011), Basic Physics
- Phys 12(1012), Basic Physics
- Chem 11(1111), Introduction Chemistry I, or Chem 1(1082), General Chemistry I, plus
- Chem 9(1091), General Chemistry II
- Chem 12(1121), Introductory Chemistry II
- Chem 261(2612), Organic Chemistry I
- Chem 262(2622), Organic Chemistry II
- Chem 263(2633), Organic Chemistry Laboratory or Chem 122(2222), Quantitative Analysis
- Phil 156(2256), Medical Ethics, or
- Phil 280(3380), Philosophy of Science
- Math 30(1030), College Algebra, and
- Math 35(1035), Trigonometry
- Math 100(1100), Basic Calculus, or
- Math 80(1800), Analytical Geometry and Calculus I

Research Requirement. All students acquiring a bachelor of science degree are strongly encouraged to complete a minimum of 2 credit hours of undergraduate research, Biology 390(4905). The privilege of doing undergraduate research provides students with a firsthand opportunity to experience the research process under the supervision of a faculty member or off-campus scientist. The project normally includes a library search of pertinent literature, laboratory or field experience, and a summary paper.

The following 100 level biology courses may be taken by biology majors, but do not count toward the biology credit hours required for a major. They may be included in the 120 hours required for graduation as elective credit.

- 110(1102), Human Biology
- 113(1131), Human Physiology and Anatomy I
- 114(1141), Human Physiology and Anatomy II
- 116(1162), General Microbiology
- 120(1202), Environmental Biology
- 130(1081), Global Ecology

Bachelor of Science in Education with Emphasis in Biology

The B.S. Ed. is a professional degree designed for individuals who wish to pursue a teaching career in biology in the secondary schools. The biology requirements parallel those for the B.A. degree with the exception that Biology 285(4985), Curriculum and Methods of Teaching Life Sciences, and Biology 286(4986), Laboratory in Teaching Life Sciences, are substituted for Biology 389(4889), Senior Seminar. Students must also fulfill the requirements for the B.S. Ed. degree as prescribed by the College of Education.

Bachelor of Arts in Biology with Teacher Certification

Biology majors interested in teaching biology in secondary schools may obtain teacher certification in cooperation with the College of Education by fulfilling the B.A. or B.S. with certain prescribed courses in biology, with the exception of Biology 389(4889), Senior Seminar, and in addition, completing the following courses:

- Psych 3(1003), General Psychology
- Ed Fnd 111(1111), The School in Contemporary Society
- English 216(3160), Writing in the Sciences
- History 2(1001), 4(1002), or 6(1003), American Civilization
- PolSci 11(1100), Introduction to American Politics
- Philosophy 280(3380), Philosophy of Science
- Comm 40(1040), Introduction to Public Speaking
- Theater 21(1210), Fundamentals of Acting
- Geology 1(1001), General Geology
- Atmospheric Science 1(1001), Elementary Meteorology
- Ed Psy 312(3312), The Psychology of Teaching and Learning
- Ed Tec 248(2248), Utilization of Computer-Based Materials in Instruction
- See Ed 213(3213), Techniques of Secondary School Teaching and Field Experience or
- Tch Ed 310(3310), Introduction to Instructional Methods
- Spec Ed 313(3313), The Psychology and Education of Exceptional Individuals
- See Ed 386(4391), Teaching Reading in Secondary School

Content Areas

Biology 285(4985), Curriculum and Methods of Teaching Life Sciences
- Biology 286(4986), Laboratory in Teaching Life Sciences
- See Ed 290(3290), Secondary School Student Teaching
- Biology 399(4999), Science Teaching Intern Seminar

Since specific biology courses are required for teaching endorsement, contact the Department of Biology AND the College of Education for special advising regarding teacher certification.

Minor in Biology

Students may minor in biology by completing a minimum of 19 credit hours in biology, of which at least 9 hours of the biology course credits must be taken in residence at UM-St. Louis.

Requirements are:
- Biology 11(1811) and 12(1821), Introductory Biology I and II
- Three additional courses at the 200 level or above totaling no less than 9 credit hours. These may include either lecture or laboratory courses.

All students must consult with an adviser to plan an appropriate course of study. This program must be approved by the chairperson of the Department of Biology. Under certain circumstances, a student may deviate from
Candidates must have a cumulative grade point average of 2.0 or better in the minor, and none of the courses may be taken on a satisfactory/unsatisfactory (s/u) basis.

Biochemistry Certificate
The university offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned within either a biology major or a chemistry major. The requirements for earning a Biochemistry Certificate within the biology major are:

**Biotherapy**
- 11(1811), Introductory Biology I
- 12(1821), Introductory Biology II
- 224(2012), Genetics
- 232(3622), Cell Structure and Function
- 371(4712), Biochemistry, or
- Chem 371(4712), Biochemistry
- 375(4713), Techniques in Biochemistry (lab)
- 376(5712), Topics in Biochemistry, or
- Chem 372(4722), Advanced Biochemistry
- 378(5715), Protein Biochemistry Lab, or
- Chem 373(4733), Biochemical Techniques
- 389(4889), Senior Seminar

Chemistry
- 11(1111), Introductory Chemistry I
- 12(1121), Introductory Chemistry II
- 222(2222), Quantitative Analysis
- 261(2612), Organic Chemistry I
- 262(2622), Organic Chemistry II
- 263(2633), Organic Chemistry Laboratory

and three of the following biology courses:
- 216(2482), Microbiology
- 218(2483), Microbiology Laboratory
- 235(3642), Development
- 317(4842), Immunobiology
- 326(4602), Molecular Biology
- 327(4614), Biotechnology Laboratory I
- 333(4632), Nucleic Acid Structure and Function
- 335(4622), Molecular Cell Biology
- 338(4612), Molecular Genetics of Bacteria

Undergraduate Certificate in Biotechnology
The university offers an undergraduate certificate program for biology majors who are interested in careers in biotechnology including biochemistry, microbiology, molecular biology, cell biology, developmental biology, and molecular evolution.

**Requirements**

Undergraduate biology majors must enroll in the Biotechnology Certificate Program after the completion of 60 credit hours. A student will receive the Certificate in Biotechnology by completing the requirements for the bachelor's degree and fulfilling all the science (biology, chemistry, math, and computer science) course requirements of the B.S. in biology program. The required biology courses for the certificate are:

**Biology**
- 216(2482), Microbiology
- 218(2483), Microbiology Laboratory
- 226(2013), Genetics Laboratory
- 327(4614), Biotechnology Laboratory I
- 375(4713), Techniques in Biochemistry

One of the following two courses:
- 326(4602), Molecular Biology
- 338(4612), Molecular Genetics of Bacteria

One of the following seven courses:
- 317(4842), Immunobiology
- 328(4615), Biotechnology Laboratory II
- 333(4632), Nucleic Acid Structure and Function
- 334(4652), Virology
- 335(4622), Molecular Cell Biology
- 376(5712), Topics in Biochemistry
- Chemistry 372(4722), Advanced Biochemistry

Undergraduate Certificate in Conservation Biology
The Certificate in Conservation is a multidisciplinary program of study integrating theoretical and applied topics associated with conservation biology. The certificate is intended for undergraduate students with majors in biology or in any other field who wish to develop a specialization in conservation. The certificate is offered by the Department of Biology in cooperation with the departments of Anthropology, Economics, History, Political Science, Social Work, and Sociology. Building on a core curriculum, students can elect courses from these departments to complete their requirements. Regularly enrolled undergraduates at UM-St. Louis or individuals with baccalaureate degrees who wish to receive a Certificate in Conservation Biology are eligible to participate in the conservation certificate program. To participate, students must apply to the certificate program. Application forms are available from the biology department. Guidelines for admission to the certificate program are also available. Individuals with baccalaureate degrees who are interested in this certificate must apply to the university as unclassified undergraduates. The certificate requires completion of 21 credit hours, outlined below. Students should consult the Bulletin with regard to prerequisites for any of the courses listed here.

**Core Courses**

**Biology**
Electives: The remaining 11 credits must be selected from courses listed below. Five credits must be taken from within biology and 6 credits outside biology, from at least two departments.

Anthropology
120(2120), Native Peoples of North America
131(2131), Archaeology of Missouri
132(2132), Archaeology of North America

Biology
323(3122), Tropical Resource Ecology
324(3123), Tropical Resource Ecology Field Studies
325(3145), Tropical Vertebrate Ecology
341(4182), Population Biology
348(4112), Evolution of Animal Sociality
351(4501), Flowering Plant Families: Phylogeny and Diversification
364(4402), Ornithology
366(4403), Ornithology Laboratory
367(4422), Entomology
368(4423), Entomology laboratory
380(4102), Behavioral ecology
385(4202), Wildlife Ecology and Conservation
386(4203), Wildlife Ecology and Conservation Laboratory
395(4245), Field Biology
396(3182), Introduction to Marine Science

Economics
230(3300), International Economic Analysis
251(3001), Intermediate Economic Theory: Microeconomics
360(4550), Natural Resource Economics

History
300(3000), Selected Topics when relevant

Political Science
248(3480), Environmental Politics
285(3850), International Organizations and Global Problem Solving

351(4510), Comparative Public Policy and Administration
359(3590), Studies in Comparative Politics when relevant

Social Work
390(3900), Seminar in Social Work when relevant

Sociology
342(3420), World Population and Ecology
346(4470), Demographic Techniques

Preprofessional Graduation
The Department of Biology sponsors a 3+4 Program for the UM-St. Louis College of Optometry.

In this program students may be admitted to the College of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when students satisfactorily complete the first year of optometry school. One or more of the following conditions must be met in order to qualify for the undergraduate degree.

- All general education requirements and all requirements for the major, except electives, must be completed.
- Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the College of Optometry.
- Up to 6 hours from the College of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.

Graduate Studies

Master of Science in Biology
The Department of Biology offers two ways of achieving the Master of Science degree. The first is a non-thesis option suitable for those who may already have extensive research experience, for educators who seek to upgrade their academic skills but do not require research experience, or for those who need to broaden their biological background. The second is a traditional apprenticeship in research leading to a written thesis. All students admitted to the graduate program are considered to be in the non-thesis program unless they have been accepted into an individual faculty lab. Starting with a common core, either option may be developed into a final degree program in one of the following areas: animal behavior, biochemistry, biotechnology, conservation biology, developmental biology, ecology, evolution, genetics, molecular and cellular biology, microbiology, plant and animal physiology, plant systematics, population biology, and tropical biology.

M.S. Admission Requirements
Applicants to the M.S. program must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, and transcripts of all previous work. Submission of Graduate Record Examination scores, although not required, is highly recommended and will be helpful for positive consideration of admittance. Admission as a regular graduate student requires graduation from an accredited college with an overall minimum grade point average of 2.75 and minimum grade average of 3.0 in the applicant's undergraduate major.

All foreign applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 550 or better is required.

In addition to the Graduate School admission requirements, applicants should have completed advanced undergraduate biology courses including genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are also expected, and a course in statistics is highly recommended. Students
admitted to the degree program who have not met some of the prerequisites may be asked to pass appropriate courses before graduating. These courses will be agreed upon by the student's adviser, the student, and the Director of Graduate Studies during the first semester of enrollment. In particular, undergraduate deficiencies in genetics and either biochemistry or evolution shall be made up by taking the appropriate course(s).

Three credits of B392(4920) Selected Topics can be given to graduate students for B224(2012) or B246(3302), if they receive a grade of B or better for all undergraduate course work and complete a graduate-level paper assigned by the instructor. Instructor consent is required.

M.S. Degree Requirements

Advisers

All incoming thesis and non-thesis students will be assigned an academic adviser by the Director of Graduate Studies upon admission to the graduate program.

In the event that a student's interest changes or the faculty adviser feels the student's direction no longer falls within his/her area of expertise, the student and adviser should discuss whether a change of adviser is warranted. The graduate director must be notified in writing of any change in advisers. If a student or adviser is uncomfortable discussing the issue directly with each other, he/she is encouraged to meet with the director or associate director of the graduate program.

General Requirements

All students are required to take at least 4 but not more than 8 hours of Biology 489(6889), Graduate Seminar.

Non-thesis Option

Including the general requirements, students must take at least 36 credit hours, of which at least half must be at the 400-level. Students are encouraged to take a laboratory course (300 or 400 level) or 2 credit hours of Biology 490(6905), Graduate Research. A maximum of 5 credit hours of Biology 490(6905) will be counted toward the 36-credit-hour total. This research may be conducted in the laboratory, field, or library.

Thesis Option

Including the general requirement, students must take at least 30 graduate credit hours, of which at least half must be at the 400-level. No more than 13 hours of Biology 490(6905), Graduate Research, may be counted toward the degree.

The student and adviser work together to develop a research plan. The thesis proposal must be approved by the student's adviser and advisory committee before the student enrolls in more than 4 credit hours of Biology 490(6905), Graduate Research, and before the student has completed 15 credit hours in the master's program. A thesis embodying results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. This approval requires both a written thesis and oral presentation and defense.

Ph.D. in Biology

The doctoral program emphasizes empirical and theoretical approaches to biological research. Students are required to integrate basic skills in biology with focal studies in an emphasis area. The program is designed to provide research experience and training appropriate for advanced positions in academic research and teaching, government and public agencies, and industry.

Ph.D. Admission Requirements

Applicants to the Ph.D. program must submit a formal application to the Graduate Admissions Office. In addition, the applicant should arrange to have sent: three letters of recommendation from faculty members at previously attended colleges or universities, GRE scores (Verbal, Quantitative, and Analytical), and transcripts of all postsecondary academic work. Admission to the Ph.D. program normally requires a minimum grade point average overall and in biology courses of 3.0 (where A=4.0). Applicants from countries where English is not a primary language are required to take the TOEFL examination.

Scores must be submitted before admission can be decided. Ordinarily, a score of 550 or better is required. Applicants should have a bachelor's or M.S. degree from an accredited United States college or university or evidence of equivalent training at an accredited institution outside the United States.

Applicants should have the appropriate background for graduate work in biology, including courses in genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are expected. A course in statistics is recommended. Students admitted to the Ph.D. program who have not met all the prerequisites may be required to make up deficiencies before admission to candidacy. The deficiencies will be decided during orientation meetings prior to the start of the second semester. Three credits of B392(4920) Selected Topics can be given to graduate students for B224(2012) or B246(3302) if they receive a grade of B or better for all undergraduate course work and complete a graduate-level paper assigned by the instructor. Instructor consent is required.

Ph.D. Degree Requirements

In addition to the general requirements of the Graduate School, the basic requirements for the Ph.D. degree in Biology include 60 credit hours of course work which must be taken beyond the bachelor's degree. At least 30 of the 60 hours must be taken at the 400 level. With the explicit consent of the advisory committee, students may take for graduate credit up to 3 credit hours of 200-level
courses in allied departments. Courses in biology at the 200 level and below are not available for graduate credit. At least 31 of the 60 hours must be taken while in residence at the University of Missouri-St. Louis. Graduate credit for course work transferred from another program is subject to approval by the graduate committee and by the Graduate School. Graduate courses taken elsewhere will be considered for transfer credit during orientation meetings conducted prior to the start of the second semester of enrollment.

Specific courses shall be completed as follows:

- **Biology 388(4122)** (3 hours), Biometry, or equivalent course in statistics.
- **Biology 489(6889)** (2 hours), Graduate Seminar. Three semesters required (6 credits total).
- 12 hours of formal course work required by the student's emphasis area at the time a student is admitted to the Ph.D. program.

The maximum number of credit hours that may be applied toward the 60-hour requirement is limited as stated below:

- **Biology 489(6889)**, Graduate Seminar: 10 hours
- **Biology 490(6905)**, Graduate Research: 30 hours

A combination of 6 total credit hours of the following:

- **Biology 405(5059)**, Topics in Ecology, Evolution, and Systematics
- **Biology 406(5069)**, Topics in Molecular, Cellular and Developmental Biology
- **Biology 407(5079)**, Topics in Floristic Taxonomy

**First-Year Experience**

Graduate students are expected to become involved in a research experience during their first-year program, usually winter semester or summer session.

**Qualifying Examination and Dissertation**

Students must pass a qualifying examination (which consists of a written and oral component), based on fundamental principles presented in formal courses and in papers of special importance in the field. The exam will be given in January of each year, at the beginning of the winter semester. Students beginning studies in the fall semester would normally take the qualifying examination prior to their fourth semester of full-time study. Doctoral students who have earned an M.S. degree previously are encouraged to take the examination in their first year.

**Admission to Candidacy**

To be admitted to candidacy, students must satisfy the requirements of the Graduate School, which includes passing all qualifying examinations and completing all required course work (which is a minimum of 24 credit hours as specified above).
Dissertation Proposal
All students must defend orally a written dissertation proposal to their dissertation committee. The approved proposal must be submitted to the director of graduate studies in biology. Doctoral students may not enroll in more than 4 credits of graduate research (Biology 490(6905) before they have received approval for their dissertation proposal.

Dissertation
A dissertation embodying the results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. The general regulations of the Graduate School concerning the preparation of the dissertation must be met. These rules include a public oral defense of the written dissertation. Dissertations are to be presented in a style appropriate for one or more publications in scientific journals.

Teaching
At least one semester of supervised teaching is required of all doctoral students.

Graduate Certificate in Biotechnology
The Graduate Certificate in Biotechnology is offered for students with a bachelor's degree who wish to obtain advanced level training in those fields of biology that pertain to biotechnology without necessarily earning a master's degree. Students who enter this program may have a variety of interests, including biochemistry, microbiology, molecular biology, cell biology, developmental biology, or molecular evolution.

Admission
Students who wish to earn a Graduate Certificate in Biotechnology must apply to the Biotechnology Certificate Program for admission to the program. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as non-degree students or as master's students.

Students who wish to obtain a master's degree with a Biotechnology Certificate must be accepted into the Master's degree program in Biology as well as into the Biotechnology Certificate Program. Students who apply to the certificate program as non-degree students will earn only the certificate. Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

Requirements
Students must maintain a minimum GPA of 3.0 to remain in the certificate program. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program may simultaneously earn a graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

The biotechnology certificate requires 18 credit hours of course work.

Core Requirements
I. Biology 428(6615), Advanced Biotechnology Laboratory I
II. Biology 426(6602), Advanced Molecular Biology or Biology 438(6612), Advanced Molecular Genetics of Bacteria
(If both Group II courses are taken, one may be used as elective credit)
III. The remaining 11 credit hours must be taken from the following electives:

- Biology
  - 317(4842), Immunobiology
  - 319(4843), Immunobiology Laboratory
  - 371(4712), Biochemistry
  - 376(5712), Topics in Biochemistry
  - 406(5069), Topics in Molecular, Cellular, and Developmental Biology
  - 417(5842), Advanced Immunology
  - 431(6699), Graduate Internship in Biotechnology
  - 433(6632), Advanced Nucleic Acid Structure and Function
  - 434(6652), Advanced Virology
  - 435(6622), Advanced Molecular Cell Biology
  - 439(6642), Advanced Plant Molecular Biology and Genetic Engineering
  - 489(6889), Graduate Seminar, when relevant

- Chemistry
  - 372(4722), Advanced Biochemistry
  - 373(4723), Biochemical Techniques

Graduate Certificate in Tropical Biology and Conservation
The certificate is awarded after completion of 18 credit hours of core courses and electives with a minimum of 12 credits at the 400 level. Up to 3 credits may be taken at the 200 level upon permission of the Graduate Committee. Electives must include a minimum of 3 credits outside biology with a maximum of 7 outside biology. A maximum of 3 credits may be taken elsewhere than UMSL. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the certificate when appropriate.

Required Core Courses:
Biology 445(6250), Public Policy of Conservation and Sustainable Development
Biology 447(6299), Internship in Conservation Biology (May be replaced with a biology elective for individuals with applied conservation or environmental agency experience upon consent of the Graduate Committee).

Choice of:
College of Arts & Sciences
Department of Biology

Biology 446(6212), Theory and Application of Conservation Biology
Biology 487(6222), Advanced Tropical Ecology and Conservation

Electives:
Biology
341(4182), Population Biology
351(4501), Flowering Plant Families Phylogeny and Diversification
364(4402), Ornithology
367(4422), Entomology
385(4202), Wildlife Ecology and Conservation
396(3182), Introduction to Marine Science
423(5122), Advanced Tropical Resource Ecology
424(5123), Advanced Tropical Resource Ecology Field Studies
425(5145), Advanced Tropical Vertebrate Ecology
441(6182), Advanced Population Biology
442(5192), Population and Community Ecology
446(6212), Theory and Application of Conservation Biology
448(6112), Advanced Evolution of Animal Sociality
480(6102), Advanced Behavioral Ecology
483(6192), Applications of Geographic Information Systems
487(6222), Advanced Tropical Ecology and Conservation
489(6889), Graduate Seminar, when relevant
Economics
230(3300), International Economic Analysis
251(3001), Intermediate Economic Theory: Microeconomics
360(4550), Natural Resource Economics
History
300(3000), Selected Topics in History, when relevant
371(3201), History of Latin America: to 1808
372(3202), History of Latin America: Since 1808
381(3302), West Africa Since 1800
425(6114), Readings in Latin American History, when relevant
430(6115), Readings in African History, when relevant
Political Science
248(3480), Environmental Politics
253(2530), Political Systems of South America
254(2540), Political Systems of Mexico, Central America, and the Caribbean
258(2580), African Politics
283(3830), International Political Economy
285(3850), International Organizations and Global Problem Solving
347(4470), Introduction to Environmental Law and Policy
351(4510), Comparative Public Policy and Administration
359(3590), Studies in Comparative Politics, when relevant
385(4850), International law
388(3890), Studies in International Relations
394(4940), Leadership and Management in Nonprofit Organizations
414(6414), Topics in Public Policy Analysis, when relevant
448(6448), Political Economy and Public Policy
459(6459), Seminar in Latin American Politics, when relevant
462(6462), Political Theory and Public Policy
481(6490), Seminar in International Relations
Social Work
390(4950), Seminar in Social Work Issues, when relevant
Sociology
342(4342), World Population and Ecology
346(4646), Demographic Techniques
426(5426), Community and Regional Conflict Resolution

Career Outlook

The biology degree programs, at the baccalaureate and master's degree levels, are designed to prepare the student for further training. The undergraduate degree is designed to prepare the student for professional training in areas such as medicine, training, dentistry, veterinary medicine, optometry, and related areas, or for further graduate training in research. The Master of Science program is an extension of the undergraduate program and has as its goals three main objectives:

- Provide research-oriented training and education.
- Provide qualified graduates for doctoral programs.
- Provide secondary school and junior college biology teachers with training necessary to maintain and improve their teaching effectiveness.

The Ph.D. program prepares students as research professionals in fields such as biological conservation, ecology, and biomedical science. Employment opportunities are available in college or university research and teaching, in government and public institutions such as museums and botanical gardens, and in industry.
Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult an adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St. Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study before the start of the fall 2002 semester:

1(1012), 3(1013), 11(1811), 12(1821), 10(1102), 113(1131), 114(1141), 116(1162), 120(1202), 130(1081), 213(3802), 215(3803), 216(2482), 218(2483), 220(2102), 222(2103), 224(2012), 226(2013), 232(3622), 234(3631), 235(3642), 237(3643), 240(3202), 241(3203), 246(3302), 250(2501), 260(2402), 262(2403), 264(2442), 266(2443), 280(3102), 282(3103), 284(3122), 317(4842), 319(4843), 320(4822), 322(4823), 323(3122), 324(3123), 325(3145), 326(4602), 327(4614), 328(4615), 333(4632), 334(4652), 335(4622), 336(4623), 337(4642), 341(4812), 348(4112), 351(4501), 353(4532), 355(4552), 360(4784), 362(3322), 364(4402), 365(5312), 366(4403), 367(4422), 368(4423), 371(4712), 375(4713), 376(5712), 378(5715), 380(4102), 382(4302), 383(4192), 384(4162), 385(4202), 386(4203), 387(4222), 388(4122), 389(4889), 390(4905), 392(4920), 395(4245), 396(3182), 398(3183).

1(1012) General Biology (3), [MS]
Emphasis on fundamental principles of biology. Biology 1(1012) can be applied toward fulfillment of the general education requirement in science. Biology 1(1012) does not satisfy the prerequisite requirements in other courses in biology at the 200 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions should enroll in Biology 11(1811) rather than Biology 1(1012). Three hours of lecture per week.

3(1013) General Biology Laboratory (2), [MS]
Prerequisite: Biology 1(1012) (may be taken concurrently). Laboratory course to accompany Biology 1(1012). Biology 3(1013) can be used to fulfill the general education requirements in a laboratory science. Biology 3(1013) does not meet the prerequisite requirements for other courses in biology. Three and one-half hours of laboratory per week.

11(1811) Introductory Biology I (5), [MI, MS]
Prerequisites: A minimum of high school chemistry, English 10(1100) or equivalent (may be taken concurrently), and placement into college algebra or higher. Required for students intending to major in biology or take specified biology courses at the 200 level or above. Ordinarily followed immediately by Biology 12(1821). This course presents an introduction to some of the principles of biology and scientific methodology applied to the molecular/cellular through organ system levels of organization. Topics include: cell structure, metabolism, reproduction, heredity and major physiological processes regulated by organ systems. Three hours of lecture, three and one-half hours of lab, and one hour of discussion per week.

12(1821) Introductory Biology II (5), [MI, MS]
Prerequisites: Biology 11(1811). Required for students intending to major in biology or take specified biology courses at the 200 level or above. Ordinarily taken immediately following Biology 11(1811). This course presents an introduction to some of the principles of biology and scientific methodology applied to the organismal and supraorganismal levels of biology. Topics to be covered include: ecology, evolution, diversity, and population biology. Three hours of lecture, three and one-half hours of laboratory, and one hour of discussion per week.

110(1102) Human Biology (3) [C, MS]
Lectures and readings concerned with the reproduction, development, genetics, functional anatomy, behavior, ecology, and evolution of the human species. Three hours of lecture per week.

113(1131) Human Physiology and Anatomy I (4), [MS]
Prerequisite: Biology 1(1012) or its equivalent. The basic aspects of the structure of the healthy human body and how it functions. Special emphasis is on how the human body adapts itself to its environment and how changes affect physiological activities. Three hours of lecture and two hours of laboratory per week.

114(1141) Human Physiology and Anatomy II (4), [MS]
Prerequisite: Biology 110(1102). A continuation of Biology 113(1131). A study of the basic aspects of human physiology and anatomy. Three hours of lecture and two hours of laboratory per week.

116(1162) General Microbiology (3), [MS]
Prerequisite: Biology 1(1012) or its equivalent. A survey of microbial structure, genetics, and physiology. Special emphasis will be placed on the transmission and control of such organisms as they relate to the maintenance of human health. Three hours of lecture per week.

120(1202) Environmental Biology (3), [MI, MS]
An examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution, and conservation. Three hours of lecture per week.

130(1081) Global Ecology (3), [V, SS, MS]
Prerequisite: Biology 1(1012). Must be taken concurrently with Political Science 85(1850) for 3 hours of Biology and 3 hours of Political Science credit. A course team-taught by the Biology and Political Science departments, aimed particularly at elementary education majors. Combines
natural science and social science perspectives in taking a
global view of a variety of environmental concerns, such
as air and water pollution, climate change, conservation of
nonrenewable resources, and other issues. Examines the
underlying scientific dimension, as well as the political-
economic-social aspects of problem-solving at local,
national, and international levels. Features labs and field
trips in addition to lecture and discussion. Three hours of
lecture, one hour and fifteen minutes discussion and three
and one-half hours laboratory per week.

213(3802) Vertebrate Physiology (3)
Prerequisite: Biology 11(1811) and 12(1821) and Chem
11(1111) (or Chem 1(1082) plus Chem 9(1091)). Basic
functional aspects of organ systems in relation to the
physiochemical properties of protoplasm. Three hours of
lecture per week.

215(3803) Vertebrate Physiology Lab (2)
Prerequisite: Biology 213(3802) (may be taken
concurrently). Instrumental and experimental studies in
physiology. Three and one-half hours of laboratory per
week.

216(2482) Microbiology (3)
Prerequisite: Biology 11(1811) (majors must also take
Biology 12(1821)) and Chem 11(1111) (or Chem 1(1082)
plus Chem 9(1091)). Study of microorganisms, their
metabolism, genetics, and their interaction with other
forms of life. Three hours of lecture per week.

218(2483) Microbiology laboratory (2)
Prerequisite: Biology 216(2482) (may be taken
concurrently). Experimental studies and procedures of
microbiological techniques. Three and one-half hours of
organized laboratory time per week. Students will need to
return to the laboratory at unscheduled times to complete
some exercises.

220(2102) General Ecology (3)
Prerequisite: Biology 11(1811) and 12(1821). An
examination of the relationships between living organisms
and their environment. Three hours of lecture per week.

222(2103) General Ecology Laboratory (2)
Prerequisite: Biology 220(2102) required (may be taken
concurrently); a general statistics course strongly
recommended. Analysis of environmental factors
influencing the abundance and distribution of living
organisms. Some classes held at field sites in and around
St. Louis. Three and one-half hours of laboratory or field
work per week.

224(2012) Genetics (3)
Prerequisite: Biology 11(1811) (majors must also take
Biology 12(1821) and Chem 11(1111) (or Chem 1(1082)
plus Chem 9(1091)). Fundamental principles of inheritance,
including classical genetic theory as well as recent
advances in the molecular basis of heredity. Three hours of
lecture per week.

226(2013) Genetics Laboratory (2)
Prerequisite: Concurrent registration in Biology
224(2012), or by consent of instructor. Laboratory to
accompany Biology 224(2012). Three and one-half hours
of organized laboratory time per week. Students may need
to return to the laboratory at unscheduled times to
complete some exercises.

231(3699) Undergraduate Internship in Biotechnology
(1-4)
Prerequisite: Biology 11(1811) and 12(1821), Chem
11(1111) and 12(1121) and consent of instructor.
Concurrent enrollment in Chem 261(2612) or higher is
strongly encouraged. A 2.5 GPA and enrollment in the
undergraduate Biotechnology Certificate Program is
required. Internship will consist of a period of observation,
experimentation and on-the-job training in a biotechnology
laboratory. The laboratory may be industrial or academic.
Credit will be determined by the number of hours a student
works each week and in consultation between the intern's
supervisor and instructor. Two credits may be used to
fulfill the lab requirement.

232(3622) Cell Structure and Function (3)
Prerequisite: Biology 11(1811) (majors must also take
Biology 12(1821), Chem 11(1111), 12(1121) and
261(2612) or equivalents. General cell biology, stressing
cell structure and ultrastructure, as related to cell function.
Three hours of lecture per week.

234(3631) Histology and Microtechniques (5)
Prerequisite: Biology 11(1811) (majors must also take
Biology 12(1821)), Biology 232(3622) recommended. The
basic principles of histology. A survey of basic tissues and
organ systems. Techniques associated with preparation of
animal tissues for light microscopic studies. Three hours of
lecture and three and one half hours of laboratory per
week. (Additional lab hours arranged.) Fulfills both a
lecture and a laboratory requirement.

235(3642) Development (3)
Prerequisites: Biology 11(1811) and 12(1821). Basic
principles of development from the point of view of
growth, morphogenesis, and differentiation. Three hours of
lecture per week.

237(3643) Development Laboratory (2)
Prerequisite: Biology 235(3642) (may be taken
concurrently). Laboratory to accompany Biology
235(3642). Three and one-half hours of laboratory per
week.
240(3202) Conservation Biology (3)
Prerequisite: Biology 11(1811) and 12(1821). Introduction to the principles and theories of conservation biology. Course topics include biodiversity, extinctions, population modeling, habitat fragmentation, conservation area management, restoration ecology, and social science elements of conservation strategies. Class sessions will include lectures, discussions, and simulation exercises. Three hours of lecture per week.

241(3203) Conservation Biology Laboratory (2)
Prerequisites: Biology 240(3202) (recommended to be taken concurrently). Laboratory to accompany Biology 240(3202). Laboratory will include computer simulations of conservation problems using existing software, 2-3 field trips to local conservation projects, and field interviews with governmental and non-governmental agencies. Three and one-half hours of laboratory per week.

246(3302) Introduction to Evolution (3)
Prerequisite: Biology 11(1811) and 12(1821); Bio 224(2012) strongly recommended. Introduction to the theory, events, and processes of organic evolution.

250(2501) Biology of Plants (5)
Prerequisites: Biology 11(1811) and 12(1821). A general discussion of the plant groups from algae through angiosperms. Plant morphology, physiology, reproduction, and ecology will be discussed in lecture (three hours per week). The laboratory (three and one-half hours per week) involves examination of representatives of the plant kingdom and experimentation in plant physiology and genetics. Fulfills both a lecture and a laboratory requirement.

260(2402) Vertebrate Biology (3)
Prerequisite: Biology 11(1811) and 12(1821). Development, structure, function, interrelationships, and zoogeography of vertebrate animals with particular attention to phylogenetic aspects. Three hours of lecture per week.

262(2403) Vertebrate Biology Laboratory (2)
Prerequisite: Biology 260(2402) (may be taken concurrently). Laboratory to accompany Biology 260(2402). Morphological analysis and systematic survey of major vertebrate groups. Overview of the vertebrate life forms and their adaptations to habitats and resources. Three and one-half hours of laboratory per week.

264(2442) Invertebrate Biology (3)
Prerequisite: Biology 11(1811) and 12(1821). Structure and function of invertebrate animals with co-emphasis on evolution and phylogenetic interrelationships. A field trip to the Florida Gulf Coast will be offered but not required. Three hours of lecture per week.

266(2443) Invertebrate Biology laboratory (2)
Prerequisite: Biology 264(2442) (may be taken concurrently). Laboratory to accompany Biology 264(2442). Dissection and analysis of invertebrates with an emphasis on structure and function; includes field trips to area stations. A field trip to the Florida Gulf Coast will be offered but not required. Three and one-half hours of laboratory per week.

280(3102) Animal Behavior (3)
Prerequisite: Biology 11(1811) and 12(1821). The study of invertebrate and vertebrate behavior, including neurophysiological, hormonal, developmental, genetic, ecological and evolutionary aspects of behavior; behavior interactions within and between populations. Three hours of lecture per week.

282(3103) Animal Behavior Laboratory (2)
Prerequisite: Biology 280(3102) (may be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of formal laboratory time per week, but additional time may be required for independent projects. Some activities involve field trips or trips to the St. Louis Zoo.

285(4985) Curriculum and Methods of Teaching Life Sciences (4)
(Same as SecEd 285(4985).) Prerequisite: SecEd 213(3213) and a near-major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. The analysis of teaching/learning and field experience observations in secondary school classrooms will be integrated into classroom activities and discussions. This course must be completed in residence.

286(4986) Laboratory in Teaching Life Sciences (2)
(Same as SecEd 286(4986).) Prerequisite: SecEd 213(3213). Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285(4985)/SecEd 285(4985).

292(3920) Special Topics in Biology (1-5)
Prerequisites: Biology 11(1811) and 12(1821), junior standing, and consent of instructor or curriculum committee. Topics will vary each semester. Topics are available from the biology department office. This course may be used to satisfy requirements for elective biology courses for the B.A. or B.S. degree in biology; it cannot be substituted for core courses required for all majors. Credit arranged. May be taken up to two times for credit.
302(4980) Science in the Real World: Microbes in Action (2)
Prerequisites: Biology 11(1811) or Chem 11(1111) or equivalent course, and experience teaching science at the middle school or high school level. A hands-on workshop in microbiology designed for secondary school science teachers interested in introducing microbiology to their students. Includes lectures on basic microbiology, laboratory exercises in microbiology for middle school or high school classroom, discussion sessions, and a session in the computer lab to familiarize teachers with microbiology resources on the Web. Open only to middle school and high school science teachers. Does not count as credit toward degree in biology.

314(4802) Environmental Physiology (3)
Prerequisite: Biology 213(3802). Physiological responses of animals to environmental changes. Adaptation of organisms to various environments. Three hours of lecture per week. Students may not receive credit for both Biology 314(4802) and 414(6802).

316(4482) Parasitology (3)
Prerequisite: Biology 11(1811), 12(1821), and 10 additional hours of biology and upper-division standing. Biology 232(3622) strongly recommended. A broadly based course emphasizing the phylogeny, life history, ecology, and physiology of parasites of medical and veterinary importance. Modern aspects of experimental parasitology, immunoparasitology, and parasite molecular biology will be addressed.

317(4842) Immunobiology (3)
Prerequisite: Biology 371(4712) and Chem 261(2612). The fundamental principles and concepts of immunology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours of lecture per week.

319(4843) Immunobiology Laboratory (2)
Prerequisite: Biology 317(4842) (may be taken concurrently). Basic experimental procedures in immunology. Introduction to experimental evidence underlying concepts in immunology. Three and one-half hours of laboratory per week.

320(4822) Introduction to Neuroscience (3)
Prerequisite: Biology 213(3802) or consent of instructor. The study of nervous systems, featuring the cellular bases of initiation and conduction of the impulse, synaptic transmission, and the network integrative function of invertebrate and vertebrate nervous systems. This course emphasizes the multidisciplinary nature of the neurosciences, including anatomical, physiological and molecular approaches to understanding neural function. Three hours of lecture per week.

322(4823) Laboratory Techniques in Neuroscience (2)
Prerequisite: Biology 320(4822) (must be taken concurrently). Experiments are designed to accompany Biology 320(4822), and will include the use of live animals and computer simulation of the physiological and biophysical properties of excitable membranes.

323 (3122) Tropical Resource Ecology (3)
Prerequisite: Biology 220(2102) and either Biology 246(3302) or 280(3102) or their equivalent, or consent of instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323(3122) and 423(5122). Three hours of lecture per week. Offered in odd numbered years.

324 (3123) Tropical Resource Ecology Field Studies (2)
Prerequisite: Biology 323(3122) (may be taken concurrently). The field component to the lecture and seminar course. Examines the patterns of use and exploitation of resources in the tropics by humans in the context of the theories of behavioral ecology. Two weeks of intensive field research and lectures in Guyana, South America during the second and third weeks of Summer Session I (trip costs to be borne by the student). Students may not receive credit for both Biology 324(3123) and Biology 424(5123). Offered in odd numbered years.

325(3145) Tropical Vertebrate Ecology (3)
Prerequisite: Biology 220(2102), and either Biology 280(3102) or 246(3302), or their equivalent, or consent of instructor. Explores the natural history and role of neotropical vertebrate individuals, populations, and communities in savanna and rainforest ecosystems. Three weeks of intensive natural history lecture, discussion and group and individual field studies in Guyana, South America during the second, third, and fourth weeks of Summer Session I (trip costs to be borne by the student). Students may not receive credit for both Biology 325(3145) and 425(5145). Offered in even numbered years.

326(4602) Molecular Biology (3)
Prerequisite: Biology 224(2012) and 371(4712). A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in the eukaryotic cells. Three hours of lecture per week. Students may not receive credit for Biology 326(4602) and either Biology 426(6602) or any course previously called Gene Expression in Eukaryotes or Advanced Gene Expression in Eukaryotes.
327(4614) Biotechnology Laboratory I (4)
Prerequisite: Biology 224 (2012) and Biology 218 (2483), or consent of instructor. An introduction to the fundamental concepts that underlie the field of biotechnology. Both the basic principles of molecular biology and hands-on experience with the techniques of the field will be addressed through lectures, discussions, and a series of laboratory exercises. Two hours of lecture and four hours of laboratory per week. Fulfills a laboratory requirement only. May not be used to fulfill the 300-level lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for Biology 327(4614) and either a course previously called Introduction to Biotechnology or a comparable biotechnology course from another institution.

328(4615) Biotechnology Laboratory II (4)
Prerequisite: Biology 327(4614) and either Biology 326(4602) or Biology 338(4612), or consent of instructor. An in-depth look at theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Fulfills a laboratory requirement only; may not be used to fulfill the 300-level lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for Biology 328(4615) and either Biology 428 (6615) or any course previously called Techniques in Molecular Biology or Advanced Techniques in Molecular Biology.

333(4632) Nucleic Acid Structure and Function (3)
Prerequisite: Biology 224(2012) and 371(4712) or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture per week. Students may not receive credit for both Biology 333(4632) and 433(6632).

334(4652) Virology (3)
Prerequisite: Biology 216(2482) and 224(2012). A comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture per week. Students may not receive credit for both Biology 334(4652) and 434(6652)

335(4622) Molecular Cell Biology (3)
Prerequisites: Biology 326(4602), Biology 232(3622), and Biology 371(4712) or consent of instructor. A study of the structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students may not receive credit for both Biology 335(4622) and Biology 435(6622).

338(4612) Molecular Genetics of Bacteria (3)
Prerequisite: Biology 216(2482) and Biology 224(2012). A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students may not receive credit for Biology 338(4612) and either Biology 438(6612) or any course previously called Gene Expression in Prokaryotes or Advanced Gene Expression in Prokaryotes.

339(4642) Plant Molecular Biology and Genetic Engineering (3)
Prerequisite: Biology 326(4602) or 338(4612). Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant-microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture per week. Students may not receive credit for both Biology 339(4642) and 439(6642).

341(4182) Population Biology (3)
Prerequisite: Biology 220(2102) and 224(2012) (Biology 246(3302) recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. Three hours of lecture per week. Students may not receive credit for both Biology 341(4182) and 441(6182).

347(4299) Practicum in Conservation (2)
Prerequisite: Biology 240(3202) or consent of instructor. This course is generally restricted to students officially enrolled in the Certificate Program in Conservation Biology. The course provides practical experience with conservation or environmental agencies. Specific placement will be selected according to student's interests and career goals as well as availability of agency openings. Course requirements include practical experience and final report on practicum experience.
348(4112) Evolution of Animal Sociality (3)
Prerequisite: Biology 280(3102) or consent of instructor, Biology 220(2102) or 341(4182) recommended. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches to social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture, one hour of discussion per week. Students may not receive credit for both Biology 348(4112) and 448(6112).

351(4501) Flowering Plant Families: Phylogeny and Diversification (5)
Prerequisites: Biology 250(2501) or consent of instructor. Focusing on the flowering plant families of North America, the aim of the course is to give an understanding of their phylogeny and diversification. Student will also gain an understanding of plant morphology and anatomy, a basis for further developing their knowledge of plants. Three hours of lecture and three to four hours of laboratory per week. Students may need to return to the laboratory at unscheduled times.

353(4532) Sex and Evolution in the Flowering Plants (3)
Prerequisites: Biology 11(1811) or 12(1821) or equivalent; Biology 246(3302) or 250(2501) recommended. The evolution of flowers, and flowering plants, is the result of mutualistic plant-animal interactions. This course explores all aspects of the function of flowers, integrating findings and approaches from ecology, systematics, plant physiology, and animal behavior. Flower color, scent, and nectar, deceptive pollination systems, pollen-stigma interactions and incompatibility systems, flowering plant mating systems (including selfing and apomixis), and pollination by insects, vertebrates, wind, and water. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors.

355(4552) Evolution and Phylogeny of Seed Plants (3)
Prerequisites: Biology 246(3302) or 250(2501) or equivalent. Examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment or morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Includes introduction to cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biology 355(4552) and Biology 455(6552).

360(4784) Techniques in Electron Microscopy (3)
Prerequisite: Biology 232(3622) and consent of instructor, Biology 234(3631) recommended. Discussion of electron microscopy and associated techniques. Students will learn techniques associated with the preparation of materials for electron microscopy and learn to operate and perform minor servicing of the electron microscope. This course fulfills a laboratory requirement for the B.A. or B.S. degree in biology; it may not be used to fulfill the 300-level lecture course requirement for the B.A. or B.S. in biology. Two hours of lecture per week and two hours of laboratory per week.

361(4785) Advanced Laboratory for Electron Microscopy (2)
Prerequisites: Biology 360(4784) (may be taken concurrently). Additional laboratory to accompany Biology 360(4784). Students may use the electron microscope to conduct specific research projects and/or to improve their proficiency in techniques associated with the electron microscope. Students may not use both Biology 360(4784) and Biology 361(4785) to fulfill the minimum number of laboratory courses required for the B.A. or the B.S. degree in biology. A minimum of four hours per week, to be arranged.

362(3322) History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)
(Same as History 245(3322).) Prerequisites: At least 3 biology courses beyond the introductory level or consent of instructor. Topics include principles of ethnobiological classification, Aristotle and Theophrastus and their incorporation in western science, and natural history in the Renaissance. Focuses on the breakup of natural history after 1750; integration of natural history and botany in popular culture and its consequences for professional disciplines; relationships between new botany and classification botany, among botany, zoology and biology at the end of 19th century, and between field and laboratory science; and conflict between systematic schools in later 20th century. Three hours of lecture per week. Paper on topic of student's choice required. Credit not granted for more than one of Biology 362(3322), History 245(3322), and Biology 462(5322).

364(4402) Ornithology (3)
Prerequisite: Biology 220(2102) and junior standing. Introduction to avian biology and ecology. Material to be covered will include basic adaptations of anatomy, physiology, and behavior of birds. There will be a strong emphasis on avian ecology and conservation. Specific topics will include flight, reproductive behavior, migration, foraging behavior, community structure, and current conservation concerns. The diversity of birds will be emphasized through comparisons between temperate and tropical regions. Three hours of lecture per week.
365(5312) Theory of Systematics (3)
Prerequisites: Biology 11(1811) and 12(1821) and at least one course beyond introductory level dealing with animal, plant, or microbial diversity (such as Biology 216(2482), 250(2501), 260(2402), 316(4482), 351(4501), 364(4402), or 367(4422) or consent of instructor. Investigates theory of classification, phylogenetic analysis, systematic biology, and their relation to systematic practice. Covers goals and schools of systematics, characters, and homology, analysis of molecular and morphological data and underlying assumptions, species concepts, classification, naming, and connections between evolutionary biology and systematics. Appropriate for upper-level undergraduates and graduate students in all disciplines, animal, plant, and microbial, as introduction to systematic methods. Three hours of lecture per week.

366(4403) Ornithology Laboratory (2)
Prerequisite: Biology 364(4402) (may be taken concurrently) or consent of instructor. This course will introduce students to methods of identifying and studying birds. Labs will almost entirely be comprised of field trips to local areas and will emphasize diversity of birds, adaptations shown by different groups, and means of identification, particularly of birds found in Missouri. Field projects will focus on techniques for censusing birds, sampling foraging behavior, and studying habitat selection. Indoor periods will cover internal and external anatomy of birds. Slides and field trips to the St. Louis Zoo will be used to survey the diversity of birds worldwide. Three and one-half hours of laboratory per week. Longer (e.g., Saturday) field trips will be made when appropriate.

367(4422) Entomology (3)
Prerequisite: Biology 11(1811) and 12(1821); 9 additional hours of biology, and upper-division standing. Development, structure, function, behavior and ecology of insects, including a systematic survey of the orders of Insecta. Three hours of lecture per week.

368(4423) Entomology Laboratory (2)
Prerequisite: Biology 367(4422) (may be taken concurrently). Laboratory to accompany Biology 367(4422). Studies of the morphology, physiology, and behavior of insects to give a sampling of biological studies of the class Insecta. Formation of a collection of insects, comprising a systematic survey of orders and principal families, will be an integral part of the course and will require additional time beyond the official lab hours. Three and one-half hours of lab per week.

371(4712) Biochemistry (3)
(Same as Chemistry 371(4712)). Prerequisite: Chemistry 261(2612) and either Biology 11(1811) or Chem 262(2622). The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biology 371(4712) and Chemistry 371(4712). Biology 371(4712) may not be used to fulfill the 300-level lecture course requirement for the B.S. in Biology.

375 (4713) Techniques in Biochemistry (2)
Prerequisite: Biology 371(4712) or Chemistry 371(4712) (may be taken concurrently). Laboratory activities introducing fundamental qualitative and quantitative biochemical techniques. Student evaluation will be based on laboratory participation, student laboratory reports, and written examinations. Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some experiments.

376(5712) Topics in Biochemistry (3)
Prerequisite: Biology 371(4712). Topics include control of cellular metabolism, membrane transport mechanisms of action of enzymes and hormones, and enzyme kinetics. Three hours of lecture per week.

378(5715) Protein Biochemistry Laboratory (2)
Prerequisite: Biology 375(4713) or consent of instructor. Exploration of various techniques and tools for purification, analysis, and characterization of proteins. Three and one-half hours of laboratory per week.

380(4102) Behavioral Ecology (3)
Prerequisite: Biology 280(3102) (Biology 220(2102) recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture per week. Students may not receive credit for both Biology 380(4102) and 480(6102).

382(4302) Biogeography (3)
Prerequisites: Introductory biology and at least one course beyond the introductory level dealing with animal, plant, or microbial diversity (such as Biology 216(2482), 250(2501), 260(2402), 264(2242), 316(4482), 351(4501), 364(4402) or 367(4422), or permission of the instructor. This course investigates the theory and practice of biogeographic research, and shows how biogeography integrates the disciplines of ecology, population biology, evolution, and systematics. The course will cover both traditional and quantitative approaches to the analysis of organisms’ distributions, using examples from plants and animals. Students will analyze a published or original data set of their choice, using available biogeographic computer software. The course is appropriate for upper level undergraduates and graduate students in all disciplines of biology. Three hours of lecture per week. Students may not receive credit for both Biology 382(4302) and 482(6302).
383(4192) Introduction to Geographic Information Systems (3)
Prerequisite: Biology 220(2102), 388(4122) or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of geographically referenced data. This course provides a foundation in using GIS for spatial analysis. Students will have hands-on use of GIS software using UNIX-based computer workstations. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383(4192) and 483(6192).

384(4162) Evolutionary Ecology (3)
Prerequisites: Biology 246(3302) and 341(4182), or equivalent, or consent of instructor. The course will explore the use of evolutionary theory to interpret life-history adaptations of organisms, family and social interactions, coevolution, and macroevolution. Topics will include the evolution of sex, sexual selection, aging, parent-offspring conflict, evolution of pathogen virulence, artificial selection, and genetic modification of organisms. Students will also analyze data sets using computer software to highlight the application of game theory approaches and phylogenetically based comparative analysis to interpret patterns in nature. Three hours of lecture per week. Students may not receive credit for both Biology 384(4162) and 484(6162).

385(4202) Wildlife Ecology and Conservation (3)
Prerequisite: Biology 220(2102), and junior standing. This course will provide a basic survey of the ecological issues involved in conservation and management of wild animals. Topics will include population dynamics and regulation, habitat management, endangered species, wildlife legislation, predator-prey interactions, human-wildlife conflicts, sustainable use of wildlife. There will be a strong emphasis on temperate ecosystems, but many examples will be drawn from tropical ecosystems. Use of computer simulation models in wildlife conservation and management will be included. Three hours of lecture per week.

386(4203) Wildlife Ecology and Conservation Laboratory (2)
Prerequisite: Biology 385(4202) (may be taken concurrently) or consent of instructor. This course will provide field and laboratory experiences to accompany Biology 385(4202). Field trips will emphasize field research techniques, including methods for sampling animal populations and their habitat. Considerable emphasis will be placed on learning to identify common vertebrates of Missouri streams and forests. Laboratory periods will be used to discuss methods of data analysis, computer simulations, as well as further emphasis on identification. Three and one-half hours of lab per week. Several one- to two-day field trips will be required as well.

387(4222) Tropical Ecology and Conservation (3)
Prerequisite: Biology 220(2102), 341(4182), 442(5192) or equivalent. This course will cover research areas in tropical population, community and ecosystems ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and development of strategies leading to sustained use of nonrenewable resources. Students may not receive credit for both Biology 387(4222) and 487(6222). Three hours of lecture per week.

388(4122) Biometry (3)
Prerequisite: Math 30(1030) and a minimum of 15 hours in biology. Reviews descriptive, analytical, and experimental methods useful for the statistical study of biological phenomena. Students will develop the skills needed to better appreciate and evaluate the published literature, as well as the ability to design their own research programs. Topics include: the collection and summarization of biological observations; development, design, and testing of hypotheses; analysis and presentation of data. Three hours of lecture per week. Fulfills the statistics requirement for the B.A. or B.S. degree in biology.

389(4889) Senior Seminar (2)
Prerequisite: Senior standing. Required of biology majors. Oral and written presentation by students of selected scientific papers or articles. Students are expected to participate in discussions of oral presentations by other students. May not be taken for graduate credit.

390(4905) Research (1-3)
Prerequisite: Consent of the Biology 390(4905) course coordinator. Generally restricted to junior and senior standing. Research (laboratory and/or library) in an area selected by the student in consultation with and under the supervision of a faculty research adviser. Credit arranged. Course may be repeated for a total of up to 5 credit hours. No more than 2 credit hours may be applied toward the minimum number of biology course credits for the major in biology.

392(4920) Selected Topics (1-10)
Prerequisite: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics available in the department office. Credit arranged. May be taken more than once for credit.
395(4245) Field Biology (3)
Prerequisite: Three biology courses and consent of instructor. Intensive study of the flora and fauna of selected natural areas of North America, including an extended field trip. Details of the field trip and course Schedule will be posted in the Biology Department preceding registration for the term in which the course will be offered. Students will be required to pay costs of travel and of the field trip. This is a laboratory course appropriate for advanced undergraduates and non-thesis Master of Science students. Students may not receive credit for both biology 395(4245) and 440(6245).

396 (3182) Introduction to Marine Science (3)
Prerequisite: Biology 11(1811) and 12(1821) or their equivalents, (Biology 264(2442) and 266(2443) recommended). A multidisciplinary study of the ocean environment. Topics to include the geology of ocean basins, atmospheric and astronomic effects on the motion of water, chemical and physical properties of sea water, and the adaptations and diversity of marine organisms to their environment. Topics will include the ecology of various benthic and pelagic marine communities and human impact on the world's oceans. Offered in Winter Semester only.

398(3183) Introduction to Marine Science Laboratory (2)
Prerequisite: Biology 396(3182) and consent of instructor. An intensive laboratory and field study of selected North American marine communities. Based on a two-week field trip to Florida and offered during the Spring Intersession semester, following the lecture course (Biology 396(3182)) of the preceding winter semester. Students must pay their own travel and living expenses.

399(4999) Science Teaching Intern Seminar (3)
Prerequisite: Biology 285(4985) and 286(4986). Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with SecEd 290(3290), Secondary School Student Teaching.

405(5059) Topics in Ecology, Evolution, and Systematics (1)
Prerequisite: Graduate standing. Presentation and discussion of current faculty and student research projects in behavior, ecology, evolution, and systematics. May be repeated for a maximum of 3 credit hours. One hour per week.

406 (5069) Topics in Molecular, Cellular and Developmental Biology (1)
Prerequisite: Graduate standing. Presentation and discussion of student and faculty research projects and/or current research articles in molecular, cellular and developmental biology. May be repeated for a maximum of 3 credit hours. One hour per week.

407 (5079) Topics in Floristic Taxonomy (1)
Prerequisite: Biology 250(2501) or equivalent, and graduate standing. Seminar course in systematics of higher plants, arranged in the Cronquist sequence of families, covering morphology, anatomy, palynology, biogeography, chemosystematics, cytology, and other aspects of plant classification and phylogenetics. Given at the Missouri Botanical garden. One hour per week.

414(6802) Advanced Environmental Physiology (3)
Prerequisite: Biology 213(3802). Advanced aspects of physiological responses of animals to environmental changes. Adaptation of organisms to various environments. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 314(4802) and 414(6802).

417(5842) Advanced Immunology (3)
Prerequisite: Biology 317(4842). Advanced consideration of techniques of measuring antigen-antibody interaction; immunogenetics as applied to cellular immunity and transplantation; evolution of the immune response. Three hours of lecture per week.

423(5122) Advanced Tropical Resource Ecology (3)
Prerequisite: Biology 220(2102), and either Biology 246(3302) or Biology 280 (3102) or their equivalent, or consent of the instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323(3122) and Biology 423(5122). Three hours of lecture, and one hour of discussion or seminar per week. Offered in odd numbered years.

424(5123) Advanced Tropical Resource Ecology Field Studies (2)
Prerequisite: Biology 423(5122) (may be taken concurrently). The field component to the lecture and seminar course. Examines the patterns of use and exploitation of resources in the tropics by humans in the context of the theories of behavioral ecology. Two weeks of intensive field research and lectures in Guyana, South America during the second and third weeks of Summer Session I (trip costs to be borne by student). Students may not receive credit for both Biology 424(5123) and Biology 324(3123). Offered in odd numbered years.
Advanced Tropical Vertebrate Ecology (3)
Prerequisite: Biology 220(2102), and either Biology 280(3102) or Biology 246(3302) or their equivalent, or consent of the instructor. Explores the natural history and role of neotropical vertebrate individuals, populations, and communities in savanna and rainforest ecosystems. Three weeks of intensive natural history lecture, discussion, and group and individual field studies in Guyana, South America during the second, third, and fourth weeks of Summer Session I (trip costs to be borne by student). Students may not receive credit for both Biology 425(5145) and Biology 325(3145). Offered in even numbered years.

Advanced Molecular Biology (3)
Prerequisite: Biology 224(2012) and 371(4712), or consent of instructor. A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in eukaryotic cell. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for Biology 426(6602) and either Biology 326(4602) or any course previously called Gene Expression in Eukaryotes or Advanced Gene Expression in Eukaryotes.

Advanced Biotechnology Laboratory II (4)
Prerequisite: Biology 327(4614) and either Biology 326(4602) or Biology 338(4612), or consent of instructor. An in-depth look at the theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for Biology 428(6615) and either Biology 328(4615) or any course previously called Techniques in Molecular Biology or Advanced Techniques in Molecular Biology.

Graduate Internship in Biotechnology (1-4)
Prerequisite: Graduate standing and enrollment in graduate Biotechnology Certificate Program. Six credit hours maximum (maximum of eight combined credit hours of 490(6905) and internship). Internship will consist of period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours the student works each week and in consultation between the intern's supervisor and the instructor. Internship assignments will be commensurate with the education and experience of the student.

Advanced Nucleic Acid Structure and Function (3)
Prerequisites: Biology 224(2012) and 371(4712) or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 333(4632) and 433(6632).

Advanced Virology (3)
Prerequisite: Biology 216(2482) and 224(2012). An advanced comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 334(4652) and 434(6652).

Advanced Molecular Cell Biology (3)
Prerequisite: Biology 326(4602), Biology 232(3622), and Biology 371(4712), or consent of instructor. A study of structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biology 435(6622) and Biology 335(4622).

Advanced Molecular Genetics of Bacteria (3)
Prerequisite: Biology 224(2012) and 216(2482). A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for Biology 438(6612) and either Biology 338(4612) or any course previously called Gene Expression in Prokaryotes or Advanced Gene Expression in Prokaryotes.

Advanced Plant Molecular Biology and Genetic Engineering (3)
Prerequisite: Biology 326(4602) or 338(4612). Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture and one hour of seminar per week. Students may not receive credit for both Biology 339(4642) and Biology 439(6642).
440(6245) Ecological Research in Temperate Zones (3)
Prerequisite: Graduate standing and consent of instructor. This course will visit several temperate ecosystems with the objectives of learning about the natural history of these areas together with learning how to design projects and conduct field research addressing current ecological theories in a temperate setting. Several faculty members will participate in this course. Temperate sites to be visited will likely include Missouri Ozarks, Great Smoky Mountains, Indiana dunes, and Southern Illinois bottomland and cypress swamp forest. Students will be required to pay costs of travel and of field trips. Students may not receive credit for both Biology 395(4245) and 440(6245). Two hours of discussion (during weekday), four-six weekend field trips (leave Friday, return Sunday), and several (2-4) Saturday field trips during the first eight weeks of semester.

441(6182) Advanced Population Biology (3)
Prerequisites: Biology 220(2102) and 224(2012) (Biology 246(3302) recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include: demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. A discussion section will focus on mathematical elements of population biology models. Three hours of lecture, and one hour of discussion per week. Students may not receive credit for both Biology 341(4182) and 441(6182).

442(5192) Population and Community Ecology (3)
Prerequisite: Biology 220(2102) or 341(4182) or their equivalents. Studies of structure and organization of natural communities stressing the abundance and distribution of species, the regulation of species diversity, and the evolution of demographic parameters in populations. Three hours of lectures per week.

445(6250) Public Policy of Conservation and Sustainable Development (3)
(Same as Pol Sci 452(6452). Prerequisite: graduate standing in Biology or Political Science and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of the environmental policy-making in developed and developing economies.

446(6212) Theory and Application of Conservation Biology (3)
Prerequisite: Biology 341(4182), 442(5192), or equivalent; or consent of instructor. Prerequisites may be taken concurrently. Advanced analysis of conservation theory with emphasis on conservation of populations, their genetic diversity, and the biodiversity of habitats. Applied aspects of conservation and sustainable development will be illustrated through case studies presented by conservation professionals.

447(6299) Internship in Conservation Biology (1-4)
Prerequisite: Biology 445(6250) or 446(6212) and consent of the director of graduate studies in Biology. Internships will consist of a period of study, observation, and on-the-job training at a conservation or environmental agency. Specific placements will be selected according to student's interests and career goals. Internships may vary from 2 weeks to 4 months in duration.

448(6112) Advanced Evolution of Animal Sociality (3)
Prerequisite: Biology 220(2102), or 341(4182) recommended or consent of instructor. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches of social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 348(4112) and Biology 448(6112).

453(6522) Evolution of Plant Development (3)
Prerequisites: Graduate standing and understanding of basic molecular biology, plant morphology and physiology, and phylogenetic theory, or consent of instructor. Covers plant developmental genetics and morphogenesis in an evolutionary context. Readings in literature on developmental genetics, phylogenetic relationships, developmental morphology, and molecular evolution of developmentally important genes. Topics may include evolution and development of embryos, seedlings, shoots, roots, vascular systems, sporangia, flowers, gametophytes, seeds, and fruit. Three hours of lecture and discussion per week.

455(6552) Advanced Evolution and Phylogeny of Seed Plants (3)
Prerequisites: Biology 246(3302) or 250(2501), or equivalent. Advanced approaches in examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment of morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Includes use of cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biology 355(4552) and Biology 455(6552).
462(5322) Advanced History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)
Prerequisites: At least 3 biology courses beyond the introductory level or consent of instructor. Topics include principles of ethnobiological classification, Aristotle and Theophrastus and their incorporation in western science, and natural history in the Renaissance. Focuses on breakup of natural history after 1750; integration of natural history and botany in popular culture and its consequences for professional disciplines; relationships between new botany and classification botany, among botany, zoology and biology at the end of 19th century, and between field and laboratory science, and conflict between systematic schools in later 20th century. Three hours of lecture per week. Comprehensive paper on topic of student's choice required. Credit not granted for more than one of Biology 362(3322), History 245(3322), and Biology 462(5322).

480(6102) Advanced Behavioral Ecology (3)
Prerequisite: Biology 280(3102) (Biology 220(2102) recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture per week. Students may not receive credit for both Biology 380(4102) and 480(6102).

482(6302) Advanced Biogeography (3)
Prerequisites: Introductory biology and at least one course beyond the introductory level dealing with animal, plant, or microbial diversity (such as Biology 216(2482), 250(2501), 260(2402), 264(2442), 316(4482), 351(4501), 364(4402) or 367(4422), or permission of the instructor. This course investigates the theory and practice of biogeographic research, and shows how biogeography integrates the disciplines of ecology, population biology, evolution, and systematics. The course will cover both traditional and quantitative approaches to the analysis of organisms' distributions, using examples from plants and animals. Students will analyze a published or original data set of their choice, using available biogeographic computer software. The course is appropriate for upper level undergraduates and graduate students in all disciplines of biology. Graduate students will make in-class presentations on a topic appropriate to the course. Three hours of lecture per week. Students may not receive credit for both Biology 382(4302) and 482(6302).

483(6192) Applications of Geographic Information Systems (3)
Prerequisite: Biology 220(2102), Biology 388(4122) or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of geographically referenced data. This course provides a foundation in using GIS for a spatial analysis. Examples from a wide range of disciplines are used to emphasize the use of GIS as a tool to support analysis and decision-making. Students will have hands-on use of GIS software using UNIX-based computer workstations. A formal research paper on GIS applications in biological research will be required. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383(4192) and 483(6192).

484(6162) Advanced Evolutionary Ecology (3)
Prerequisites: Biology 246(3302) and 341(4182), or equivalent, or consent of instructor. The course will explore the use of evolutionary theory to interpret life-history adaptations of organisms, family and social interactions, coevolution, and macroevolution. Topics will include the evolution of sex, sexual selection, aging, parent-offspring conflict, evolution of pathogen virulence, artificial selection, and genetic modification of organisms. Students will also analyze data sets using computer software to highlight the application of game theory approaches and phylogenetically based comparative analysis to interpret patterns in nature. Graduate students will write a paper on a topic relevant to the course. Three hours of lecture per week. Students may not receive credit for both Biology 384(4162) and 484(6162).

485(5985) Problems in Teaching College Biology (3)
(Same as ADU ED 435(6435). Prerequisite: Teaching experience, 30 semester hours in biology, and consent of instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

486(5986) Techniques in Teaching College Biology for Graduate Students (2)
(Same as SEC ED 486(6986). Prerequisite: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student-teacher interaction. Recommended for all graduate students with teaching assistantships.)
487(6222) Advanced Tropical Ecology and Conservation (3)
Prerequisite: Biology 220(2102), or 341(4182), or 442(5192), or their equivalent. This course will cover research areas in tropical population, community and ecosystem ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and developments of strategies leading to sustained use of nonrenewable resources. A research proposal designed to investigate current topic in tropical ecology will be required. Students may not receive credit for both Biology 387(4222) and 487(6222). Three hours of lecture per week.

489(6889) Graduate Seminar (2)
Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

490(6905) Graduate Research in Biology (1-10)
Research in area selected by student in consultation with faculty members.

491(6915) Graduate Research Practicum (1-2)
Prerequisite: Consent of instructor. This course is designed for graduate students wishing to pursue research experience in an area outside their dissertation topic. The project can be techniques-oriented or focused on a specific research question. The credit hours will depend on the time commitment to the project as decided by the supervisory faculty members.

492(6920) Topics in Biology (2-5)
In-depth studies of selected topics in contemporary biology. May be repeated. Three hours of lecture per week.
Department of Chemistry and Biochemistry

Faculty

Gordon K. Anderson, Professor*, Chairperson
Ph.D., University of Glasgow
Lawrence Barton, Professor*
Ph.D., University of Liverpool
James S. Chickos, Professor*
Ph.D., Cornell University
Joyce Y. Corey, Professor*
Ph.D., University of Wisconsin
Wesley R. Harris, Professor*
Ph.D., Yale University
Valerian T. D’Souza, Associate Professor*
Ph.D., University of Detroit
Cynthia M. Dupureur, Associate Professor, Ph.D., Ohio State University
David L. Garin, Associate Professor Emeritus*
Ph.D., Iowa State University
Harold H. Harris, Associate Professor*
Ph.D., Michigan State University
Jane A. Miller, Associate Professor Emerita*
Ph.D., Tulane University
James J. O’Brien, Associate Professor*
Ph.D., Australian National University
Christopher D. Spilling, Professor*
Ph.D., The University of Technology, Loughborough
Keith J. Stine, Associate Professor*
Ph.D., Massachusetts Institute of Technology
Rudolph E. K. Winter, Associate Professor Emeritus*; Ph.D., The Johns Hopkins University
Zhi Xu, Associate Professor*
Ph.D., University of Pittsburgh
Donald F. Becker, Assistant Professor*
Ph.D., University of Minnesota
Alexei F. Demchenko, Assistant Professor, Ph.D., Zelinsky Institute for Organic Chemistry, Moscow
F. Christopher Pigge, Associate Professor*, Director of Graduate Studies
Ph.D., University of North Carolina
Joseph B. Dence, Adjunct Associate Professor
Ph.D., California Institute of Technology
Anthony Mannino, Adjunct Associate Professor
Ph.D., Ohio State University
William L. Neumann, Adjunct Associate Professor
Ph.D., University of Missouri-St. Louis
Robert G. Orth, Adjunct Associate Professor
Ph.D., Case Western Reserve University
Nigam P. Rath, Research Associate Professor
Ph.D., Oklahoma State University
William P. Ridley, Adjunct Associate Professor
Ph.D., University of Minnesota

Janet B. Wilking, Research Associate Professor*
Ph.D., Washington University
John Gutweller, Lecturer
Ph.D., Saint Louis University

Technical Staff
Kenneth Owens, Glassblower
Joseph Kramer, Spectrometrist
Gordon Kershmann, Electronics Technician
Donna Kramer, Coordinator, Laboratory Operations
Frank L. May, Research Investigator
Norman Windsor, Senior Electronics Technician

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration
The Department of Chemistry and Biochemistry offers courses leading to the B.A. in chemistry; the B.A. in chemistry with a biochemistry certificate; the B.S. in chemistry (chemistry or biochemistry option) in cooperation with the College of Education, the B.S. in chemistry with emphasis in chemistry and the B.A. in chemistry with teacher certification.

The department is accredited by the American Chemical Society. Students completing the B.S. degree in chemistry are certified to the American Chemical Society and are well prepared for graduate study in chemistry or a career in the chemical industry.

The department also offers work leading to the M.S. degree in chemistry, with or without a thesis. The Ph.D. degree in chemistry is offered in the emphasis areas: inorganic, organic, physical, and biochemistry. In addition to a balanced program of basic graduate courses, the department offers special topics courses and seminars in current research areas. Research is being carried on in each of the above areas by faculty members, postdoctoral associates, and graduate and undergraduate students.

The department provides students with opportunities for strong interaction with faculty representing the various areas. Students and faculty working in one area consult freely with members in other areas. In addition, there are joint research projects involving faculty and students from two or more areas.

Fellowships and Scholarships
William and Erma Cooke Chemistry Scholarships are given annually to outstanding full-time chemistry majors who are at least sophomores and have financial need.

The Lawrence Barton Scholarship is given annually to a chemistry major who is enrolled in at least 9 credit hours per semester. Preference is given to juniors and to first
generation college students, and to students who demonstrate financial need.

The Barbara Willis Brown Scholarship for Women in Chemistry is given to a female student over the age of 24, who is a chemistry major and has completed at least 60 credit hours. The student is expected to work with a faculty member on an undergraduate research project.

The Eric G. Brunngraber Memorial Scholarship is given to a chemistry major based on GPA, statement of research interests, and performance in completed course work.

Aid to Education Scholarships are given to junior or senior chemistry majors annually. The awardees are selected by the faculty on the basis of merit, and the scholarships consist of a stipend for books, educational materials, and Student Affiliate membership dues to the American Chemical Society.

The Mallinckrodt Fellowship is given annually to an outstanding chemistry doctoral student who has completed the teaching and course work component of the program. It consists of a full stipend for the academic year.

The M. Thomas Jones Fellowship is given each semester to the graduate student who is deemed by his/her peers to have presented the best research seminar.

The Graduate Research Accomplishment Prize is given annually. The recipient is chosen based on his/her publications, presentations at professional meetings, and seminars given at UMSL.

Alumni Graduate Research Fellowships are available for summer study for selected chemistry graduate students.

Several undergraduate awards are given each year to outstanding students. The Chemical Rubber Company Freshman Chemistry Award is given to the outstanding student in introductory chemistry, the American Chemical Society Division of Analytical Chemistry Award is given to the outstanding student in analytical chemistry, the American Chemical Society-St. Louis Section, Outstanding Junior Chemistry Major Award is given to the outstanding junior chemistry major, and the outstanding senior receives the Alan F. Berndt Outstanding Senior Award and the American Institute of Chemists Award.

Departmental Honors The Department of Chemistry and Biochemistry will award departmental honors to those B.A. and B.S. degree candidates in chemistry with an overall grade point average of 3.2. They must also successfully complete Chemistry 290(3905), Chemical Research, and must have presented an acceptable thesis.

### Undergraduate Studies

#### General Education Requirements

Students must satisfy the university and college general education requirements. Courses in chemistry may be used to meet the university's science and mathematics area requirement. The college's foreign language requirement fulfills the departmental requirements for B.A. candidates. It is recommended that candidates for the B.S. degree fulfill the language requirement in German or French, but any language, which meets the college requirement for the B.A. degree, is acceptable. Chemistry majors normally include Language 101 in their foreign language sequence.

#### Satisfactory/Unsatisfactory Restrictions

Chemistry majors may not take required chemistry, mathematics, or physics courses on a satisfactory/unsatisfactory basis, nor may B.S. degree candidates take the 2 elective hours in science on this option.

#### Degree Requirements

**Bachelor of Arts in Chemistry** This degree is intended primarily for preprofessional students in health science and related areas, as well as prelaw students interested in patent law. Candidates must complete the following chemistry courses:

- 11(1111), Introductory Chemistry I
- 12(1121), Introductory Chemistry II
- 122(2223), Quantitative Analysis
- 202(3022), Introduction to Chemical Literature
- 231(3312), Physical Chemistry I
- 232(3322), Physical Chemistry II
- 233(3333), Physical Chemistry Laboratory
- 241(2412), Basic Inorganic Chemistry
- 261(2612), Organic Chemistry I
- 262(2622), Organic Chemistry II
- 263(2633), Organic Chemistry Laboratory
- 289(4897), Seminar (1 credit)

In addition, candidates must complete one laboratory course chosen from Chemistry 234(4343), 323(4233), 343(4433), 364(3643), or 373(4733).

No more than 45 hours in chemistry may be applied toward the degree. Each chemistry major must present a seminar and pass a comprehensive examination during the senior year. The Department of Chemistry and Biochemistry may require students to pass a tracking test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

**Bachelor of Arts in Chemistry with a Biochemistry Certificate**

The university offers a certificate program for science majors who are interested in careers in biochemistry. This
is an interdisciplinary program that involves additional courses in biochemistry and biology. In addition to the usual requirements for the B.A. degree in chemistry, the student must take the following courses:

**Chemistry**
- 371(4712), Biochemistry
- 372(4722), Advanced Biochemistry
- 373(4733), Biochemistry Laboratory
- 376(4764), Interdisciplinary Topics in Biochemistry or
- 377(4772), Physical Biochemistry

**Biology**
- 11(1811), Introductory Biology I
- 224(2012), Genetics
- 232(4602), Molecular Biology or
- 327(4614), Biotechnology Laboratory I

Students may obtain a minor in biology by adding Biology 12(1821) to the curriculum described above. The Biology department also offers a certificate in biochemistry.

**Bachelor of Science in Chemistry**
This is the first professional degree in chemistry. It may be taken as a terminal degree by students intending to become professional chemists or for preparation for graduate work in chemistry or biochemistry. Students may choose to specialize in chemistry or biochemistry.

**Chemistry Option**
Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry courses are required:

- 234(4343), Physical Chemistry Laboratory II
- 321(4212), Instrumental Analysis
- 323(4233), Laboratory in Instrumental Analysis
- 341(4412), Inorganic Chemistry I
- 343(4433), Inorganic Chemistry Laboratory
- 364(3643), Advanced Organic Chemistry Laboratory
- 371(4712), Biochemistry

Students must also take two elective hours of advanced work in chemistry at the 200 level or above. Students are encouraged to take Chem 290(3905): Chemical Research, to fulfill the advanced elective requirement.

**Biochemistry Option**
Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry and biology courses are required:

**Chemistry**
- 321(4212), Instrumental Analysis
- 323(4233), Laboratory in Instrumental Analysis
- 341(4412), Inorganic Chemistry I
- 371(4712), Biochemistry

**Biology**
- 11(1811), Introductory Biology I
- 224(2012), Genetics or
- 232(4622), Cell Structure and Function

If either research option is chosen, the project must be in biochemistry and must include a written final report submitted to the Department of Chemistry and Biochemistry.

Fifty-one hours of chemistry courses may be applied toward the degree. Each candidate must present a seminar and pass a comprehensive examination during the senior year.

**Related Area Requirements**

**Bachelor of Arts and Bachelor of Science in Chemistry**
Candidates for both degrees must also complete:
- Math 80(1800), Analytic Geometry and Calculus I
- Math 175(1900), Analytic Geometry and Calculus II
- Math 180(2000), Analytic Geometry and Calculus III
- Physics 111(1011), Physics: Mechanics and Heat
- Physics 112(1012), Physics: Electricity, Magnetism, and Optics

**B.S. degree in Secondary Education with an Emphasis in Chemistry**
All candidates must enroll in a program that includes Levels I, II, and III course work in the College of Education. In addition, students must complete the following Science Core Courses and those listed under Chemistry Endorsement:

**Science Core Courses:**
- Philosophy 280(3380), Philosophy of Science
- Biology 11(1811), Introductory Biology I
- Biology 12(1821), Introductory Biology II
- Chemistry 11(1111), Introductory Chemistry I
- Chemistry 12(1121), Introductory Chemistry II
- Geology 1(1001), General Geology
- Atmospheric Science 001(1001), Elementary Meteorology
- Biology 120(1202), Environmental Biology, or another environmental science
- Physics 111(1011), Physics: Mechanics and Heat
- Physics 112(1012), Physics: Electricity, Magnetism, and Optics

**Chemistry Endorsement**
- Chemistry 122(2223), Quantitative Analysis
- Chemistry 231(3312), Physical Chemistry I
- Chemistry 261(2612), Organic Chemistry I
Chemistry 262(2622), Organic Chemistry II
Chemistry 263(2633), Organic Chemistry Laboratory
Chemistry 371(4712), Biochemistry
Chemistry 280(4802) or Education 240(3240), Methods of Teaching Science in Secondary Schools
Chemistry 283(4837), Teaching Intern Seminar
Bachelor of Arts in Chemistry with Teacher Certification

Certification Students must complete the B.A. in chemistry teacher certification. (See the College of Education section of this Bulletin.)

Minor in Chemistry

Requirements for the Minor
Students may earn a minor in chemistry by completing the following program. The following five courses are required:

Chemistry
11(1111), Introductory Chemistry I
12(1121), Introductory Chemistry II
122(2223), Quantitative Analysis
261(2612), Organic Chemistry I
263(2633), Organic Chemistry Laboratory

One course from the following list must be completed:

Chemistry
231(3312), Physical Chemistry I
241(2412), Basic Inorganic Chemistry
262(2622), Organic Chemistry II
371(4712), Biochemistry (same as Biology 371(4712))

Courses, which are prerequisites to subsequent courses in the minor, may not be taken on a satisfactory/unsatisfactory basis. A GPA of at least 2.0 is required for the courses presented for the minor. At least three courses toward the minor must be completed at UM-St. Louis.

Graduate Studies

Admission Requirements
Individuals with at least the equivalent of the B.A. degree in chemistry may be admitted to the Graduate School as candidates for the M.S. degree or as precandidates for the Ph.D. degree in chemistry. A student in the M.S. program, having completed at least 15 credit hours, may request to transfer to the Ph.D. program by petition to the department.

The department admissions committee, which makes admission recommendations to the chairperson, usually considers applicants’ grade point averages and normally requires above-average performance in all areas of chemistry as well as physics and mathematics, or other evidence of high aptitude for graduate work in chemistry. Applicants’ GRE scores, letters of recommendation, and academic programs are also considered. In some cases the committee may require successful completion of undergraduate course work as a condition of enrollment as a regular student.

Students with bachelor's degrees in fields other than chemistry may be admitted to pursue graduate studies in chemistry, but they must make up background deficiencies, usually by taking undergraduate course work.

Financial Support
Teaching assistantships are available to qualified applicants. Research assistantships and fellowships are available for advanced students. For further information, contact the Graduate Studies Committee, Department of Chemistry and Biochemistry.

Preliminary Advisement
Students who have been admitted for graduate work in chemistry will be contacted by the Director of Graduate Studies in order to develop a tentative plan of study which takes into consideration the student's background and interests. Entering students are required to demonstrate proficiency at the undergraduate level in four areas of chemistry (organic, inorganic, physical, and analytical).

Proficiency may be demonstrated in one of the following ways:
- Outstanding performance in recent undergraduate course work.
- Satisfactory performance in standardized placement examinations. These examinations are given twice a year, approximately one week before the beginning of the fall and winter semesters.
- Successful completion of assigned course work.

The ultimate choice of whether students may enroll in the M.S. or Ph.D. degree programs resides with the chemistry faculty.

Distribution Requirement Students must take chemistry courses for graduate credit at the 300 or 400 level, including at least one in three of the four areas of chemistry: organic, inorganic, physical, and biochemistry. Inorganic Chemistry I (Chem 341(4412) may not be used to satisfy this distribution requirement.

Master's Degree Requirements

Master of Science in Chemistry Candidates for the M.S. degree in chemistry must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within two years of initial enrollment.

A minimum of 30 hours is required, including 3 hours in Chem 489(6897)chemistry Colloquium. No more than 3 hours in Chem 489(6897) may be applied toward the required minimum of 30 credit hours. Students are not required to take the cumulative examinations.
Master of Science in Chemistry with Thesis Students selecting this option must be enrolled full-time for at least two consecutive semesters. During this time, students are expected to enroll in Chem 490(6905), Graduate Research in Chemistry, and work on their theses. A maximum of 12 hours of Chemistry 490(6905) may be applied toward the required 30 hours. At least 9 hours must be at the 400 level, excluding Chemistry 490(6905). A maximum of 9 hours in 200-level or above courses outside the department may be accepted if students receive prior approval of their advisers and the department. Students are expected to follow all other general requirements of the Graduate School regarding master's degree and thesis requirements.

Master of Science without Thesis Unlike the thesis option, students need not be enrolled full-time. Of the required 30 hours, 15 credits must be at the 400 level. A maximum of 6 credits of Chemistry 490(6905), Graduate Research in Chemistry, may be included in place of 300-level courses. A maximum of 12 hours taken in 200-level or above courses outside the department may be accepted with prior approval of the Director of Graduate Studies.

Doctoral Degree Requirements Incoming doctoral students must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within one year of initial enrollment. A minimum of 60 hours is required, including research hours.

Cumulative Examinations In addition to the Ph.D. requirements set forth by the Graduate School, students seeking the Ph.D. in chemistry must take a series of cumulative examinations given eight times a year. Students must pass at least two examinations per year and a total of eight examinations by the end of their third year in the Ph.D. program. At least six of these examinations should be in the student's specialization area. The examinations are usually given the second Saturday of each month, September through April. The mechanism for designing and deciding on passing and failing grades for each examination resides with faculty members in each specialization area.

Seminar Requirement Students must present a seminar in their third year and during each subsequent year. The third year seminar may be the defense of the doctoral dissertation proposal. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 489(6897), Chemistry Colloquium, each semester they are in residence.

Advancement to Candidacy In addition to general Graduate School requirements for advancement to candidacy, students must complete the following:

1) 21 hours of nondissertation work. This may not include:

Chem 321(4212), Instrumental Analysis

Chem 323(4233), Laboratory in Instrumental Analysis
Chem 341(4412), Inorganic Chemistry I
Chem 343(4433), Inorganic Chemistry Laboratory
Chem 419(6196), Advanced Reading in Chemistry
Chem 448(6487), Inorganic Problem Seminar
Chem 468(6687), Organic Problem Seminar
Chem 478(6787), Biochemistry Problem Seminar
Chem 481(6812), Introduction to Graduate Study in Chemistry
Chem 482(6822), Introduction to Graduate Research in Chemistry
Chem 489(6897), Chemistry Colloquium

but should include at least one in three of the four areas of chemistry: organic, inorganic, physical, and biochemistry. Courses in areas other than chemistry may be included with prior departmental approval.

2) Pass eight cumulative examinations.
3) Present at least one seminar to the department on the dissertation research.
4) Participate in the undergraduate academic program as a teaching assistant for at least one semester.
5) Be in good standing.

Dissertation Four copies of the dissertation must be submitted upon completion of the graduate research problem.

Probation and Dismissal Students are dismissed from the program if they fail to pass the required number of cumulative examinations before the end of each year as precandidates for the Ph.D. or otherwise fail to meet the standards set forth by the Graduate School.

Career Outlook

The B.S. degree in chemistry is the usual foundation for graduate study in chemistry, while any bachelor's degree in chemistry provides students with professional competence to enter the chemical industry. The St. Louis metropolitan area is a major center for industrial chemistry, and the demand for graduates consistently exceeds the supply. A major in chemistry provides students with excellent preprofessional training in the health sciences. A double major in chemistry and biology is often chosen by premedical and predental students and those interested in graduate work in biochemistry and biology. A minor in chemistry provides the minimum qualifications and training for a position as a laboratory technician in industry, hospital laboratories, etc.
Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offerings. Consult your adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

1(1082), 9(1091), 10(1011), 11(1111), 12(1121), 13(1134), 122(2223), 202(3022), 231(3312), 232(3322), 233(3333), 234(4343), 241(2412), 261(2612), 262(2622), 263(2633), 289(4897), 290(3905), 321(4212), 322(4223), 341(4412), 343(4433), 364(3643), 365(4652), 371(4712), 372(4722), 373(4733), 376(4764), 377(4772), 381(3814).

1(1082) General Chemistry I (3) [MI, MS]
Prerequisite: Satisfactory score on math placement test. A broad introductory survey of chemical principles. Chem 1001(1082) plus Chem 9(1091) are equivalent to Chem 11(1111). This alternative may be attractive to students who are not mathematically prepared for Chem 11(1111). Chemistry majors may not include both Chem 1(1082) and 11(1111) in the 120 hours required for graduation. Three hours of lecture per week.

5 (1052) Chemistry for the Health Professions (4) [MI, MS]
An introduction to general, nuclear, structural organic, organic reactions and biochemistry. This course is designed primarily for students in nursing and related health professions, and should not be taken by students majoring in the physical or biological sciences. Chemistry majors may include neither Chemistry 5(1052) nor 6(1062) in the 120 hours required for graduation. Four hours of lecture per week.

6(1062) Organic and Biochemistry for the Health Professions (2) [MI, MS]
Prerequisites: any college chemistry course. An introduction to organic reactions and biochemistry. Chemistry 6(1062) is offered during the second half of the semester. Four hours of lecture per week.

9(1091) General Chemistry II (3) [MI, MS]
Prerequisites: Chem 1(1082) (or equivalent or consent of instructor) and Mathematics 30 and 35(1030/1035) (may be taken concurrently). Additional work on the topics of Chem 1(1082), with emphasis on quantitative material. Introduction to the chemical laboratory. Chem 1(1082) plus Chem 9(1091) is equivalent to Chem 11(1111) for science majors. Chemistry majors who receive credit for Chem 1(1082) and Chem 9(1091) may not also include Chem 10(1011) or Chem 11(1111) in the 120 hours required for graduation. No student may take both Chem 3 and Chem 9(1091) for credit. Two hours of lecture per week, three and one-half hours of lab or one hour of discussion on alternate weeks.

10(1011) Chemistry in the Environment and Everyday Living (3) [MI, MS]
This course examines the role of chemistry in everyday life and in the environment, and is intended for students not pursuing scientific or engineering majors. Chemical principles are introduced to the extent necessary for understanding of issues, but this course does not provide the basis for further technical courses. Two hours of lecture per week; on alternate weeks, one hour of discussion or two hours of laboratory.

11(1111) Introductory Chemistry I (5) [MS]
Prerequisites: Mathematics through college algebra and trigonometry (may be taken concurrently). Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate some aspects of qualitative and quantitative analysis and to develop skills in laboratory procedures. Chemistry majors may not include both Chem 1(1082) and 11(1111), nor both Chem 10(1011) and 11(1111) in the 120 hours required for graduation. Three hours of lecture and one hour of discussion per week; one hour of laboratory-lecture and three hours of laboratory per week.

12(1121) Introductory Chemistry II (5) [MI, MS]
Prerequisite: Chem 11(1111) or advanced placement. Lecture and laboratory are a continuation of Chem 11(1111). Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

13(1134) Special Topics in Introductory Chemistry (1-5)
Prerequisite: Consent of instructor. A lecture or laboratory course to assist transfer students in meeting the requirements of Chem 11(1111) and 12(1121).

122(2223) Quantitative Analysis (3) [C, MI, MS]
Prerequisite: Chem 12(1121). Principles and practice of elementary quantitative chemistry. The lecture treats descriptive statistics with emphasis on small samples; various types of competing equilibria pertaining to acid-base, complexometric and potentiometric titrations; and an introduction to spectrophotometric processes. The laboratory provides exercises in titrimetric, gravimetric, and spectrophotometric techniques. Both portions of the course deal with the analytical chemistry of environmentally-significant problems. Two hours of lecture and four and one-half hours of laboratory weekly.
202(3022) Introduction to Chemical Literature (1)
Prerequisite: Chem 262(2622) (may be taken concurrently) and Chem 241(2412). The course will familiarize the student with the literature of chemistry and its use. One hour of lecture per week.

231(3312) Physical Chemistry I (3)
Prerequisites: Chem 122(2223) and Math 180(2000).
Principles of physical chemistry including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy, and quantum mechanics. Three hours of lecture per week.

232(3322) Physical Chemistry II (3)
Prerequisite: Chem 231(3312). Continuation of Chem 231(3312). Three hours of lecture per week.

233(3333) Physical Chemistry Laboratory I (2)
Prerequisite: Chem 231(3312) (may be taken concurrently). Experiments designed to illustrate principles introduced in Chem 231(3312). One hour of lecture and four and one-half hours of laboratory per week.

234(4343) Physical Chemistry Laboratory II (2)
Prerequisites: Chem 232(3322) (may be taken concurrently and 233(3333)). Experiments designed to illustrate principles introduced in Chem 232(3322). One hour of lecture and four and one-half hours of laboratory per week. Not for graduate credit.

241(2412) Basic Inorganic Chemistry (2) [MI, MS]
Prerequisites: Chem 12(1121). Review of principles of atomic structure, covalent and ionic bonding. Properties of the elements and synthesis, reactions and bonding aspects of important compounds of main group and transition metal elements.

261(2612) Organic Chemistry I (3) [MS]
Prerequisite: Chem 12(1121). An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

262(2622) Organic Chemistry II (3) [MI, MS]
Prerequisite: Chem 261(2612). A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

263(2633) Organic Chemistry Laboratory (2) [C, MS]
Prerequisite: Chem 261(2612) or consent of instructor. An introduction to laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds. One hour of lecture and four and one-half hours of laboratory per week.

280(4802) Curriculum and Methods of Teaching Physical Sciences (3)
(Same as SEC ED 240(3240).) Prerequisites: SEC ED 213(3213) and a near major in the subject. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

283(4837) Chemistry/Physics Teaching Intern Seminar (1)
(Same as Physics 283(4833).) Prerequisite: Chem 280(4802) or Physics 280(4800). A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290(3290). One-hour discussion per week.

289(4897) Seminar (1)
Prerequisites: Chem 202(3022) and senior standing. Presentation of papers by students, faculty, and invited speakers. Chemistry majors must enroll during the semester in which they intend to graduate. Completion of a comprehensive examination is a course requirement. One hour of lecture and one hour of discussion per week.

290(3905) Chemical Research (1-10)
Prerequisite: Consent of instructor. Independent laboratory and library study, in conjunction with faculty member, of fundamental problems in chemistry. A written report describing the research is required.

321(4212) Instrumental Analysis (2)
Prerequisite: Chem 232(3322). Principles and applications of modern methods of instrumental analysis for analytical chemistry measurements. Topics will be selected from the areas of electrochemistry, absorption and emission spectroscopy, chromatography, mass spectrometry, surface analysis, and nuclear magnetic resonance. Two hours of lecture per week.

323(4233) Laboratory in Instrumental Analysis (2)
Prerequisites: Chem 321(4212) and 233(3333). Experiments designed to illustrate the principles and practices of instrumental analysis, involving the use of modern instrumentation in analytical chemistry applications. One hour of discussion and four and one-half hours of laboratory per week.

341(4412) Inorganic Chemistry I (3)
Prerequisites: Chem 232 (may be taken concurrently), 241(2412) and 262(2622). An introduction to the chemistry of the elements, including atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Three hours of lecture per week.
343(4433) Inorganic Chemistry Laboratory (2)
Prerequisites: Chem 233(3333), 341(4412) and 364(3643)
(364(3643) may be taken concurrently). The more
sophisticated techniques of physical and analytical
chemistry will be used to study inorganic compounds and
their reactions. One hour of lecture and four and one-half
hours of laboratory per week. Not for graduate credit.

364(3643) Advanced Organic Chemistry Laboratory
(2)
Prerequisites: Chem 202(3022). Identification of organic
compounds by classical and spectroscopic methods;
advanced techniques in synthesis and separation of organic
compounds. One hour of lecture and four and one-half
hours laboratory per week. Not for graduate credit.

365(4652) Spectroscopic Identification of Organic
Compounds (3)
Prerequisite: Chem 364(3643). An applied approach to the
use of spectroscopic techniques in organic chemistry.
Topics to include integrated applications of infrared and
Raman spectroscopy, nuclear magnetic resonance (\(^{13}\text{C}\) and
\(^{1}\text{H}\), cw and pulsed) and mass spectroscopy for the purpose
of elucidating the structure of organic compounds. Three
hours of lecture per week.

371(4712) Biochemistry (3)
(Same as Biology 371(4712)) Prerequisite: Chem
261(2612) and either Biology 11(1811) or Chem
262(2622). The chemistry and function of cell constituents,
and the interaction and conversions of intracellular
substances. Three hours of lecture per week. Students may
not receive credit for both Biology 371(4712) and
Chemistry 371(4712). Biology 371(4712) may not be used
to fulfill the 300-level lecture course requirement for the
B.S. in Biology.

372(4722) Advanced Biochemistry (3)
Prerequisite: Chem 371(4712). Selected advanced topics in
the chemistry of life processes. Three hours of lecture per
week.

373(4733) Biochemistry Laboratory (2)
Prerequisite: Chem 371(4712) (may be taken
concurrently). Laboratory study of biochemical processes
in cellular and subcellular systems with emphasis on the
isolation and purification of proteins (enzymes) and the
characterization of catalytic properties. One hour of lecture
and three and one-half hours of laboratory per week.

376(4764) Interdisciplinary Topics in Biochemistry (3)
Prerequisites: Chem 371(4712); Chem 372(4722) strongly
recommended. Includes advanced studies of enzyme
mechanisms, the role of metal ions in enzymatic and non-
enzymatic processes, and the application of computational
chemistry to biological systems. Three hours of lecture per
week.

377(4772) Physical Biochemistry (3)
Prerequisite: Chem 231(3312) or Chem/Bio 371(4712).
Designed to acquaint students with concepts and methods
in biophysical chemistry. Topics that will be discussed
include protein and DNA structures, forces involved in
protein folding and conformational stability, protein-DNA
interactions, methods for characterization and separation of
macromolecules, electron transfer, and biological
spectroscopy. Three hours of lecture per week.

381(3814) Special Topics (1-10)
Prerequisite: Consent of instructor. A reading and seminar
course in selected advanced topics.

414(5142) Molecular Spectroscopy (3)
Prerequisite: Chem 232(3322). A broad treatment of the
interaction of electromagnetic radiation with matter,
emphasizing the unity of such interactions. Interpretation
of molecular rotational, vibrational and electronic spectra
in terms of geometric structure and dynamics. Description
and interpretation of physical techniques used to obtain
molecular spectra. Three hours of lecture per week.

416(5162) Chemical Applications of Group Theory (3)
Prerequisite: Chem 232(3322). A brief introduction to the
fundamental relationships of group theory and molecular
symmetry. Application of group theory to molecular
orbital theory, molecular vibrations, and molecular spectra.
Three hours of lecture per week.

419(6196) Advanced Reading in Chemistry (1)
Prerequisite: Admission to the Ph.D. degree program.
Reading and examinations in the subdisciplines of
chemistry. Enrollment must begin after completion of any
course deficiencies.

430(5302) Advanced Physical Chemistry (3)
Prerequisite: Chem 232(3322). Covers advanced topics in
physical chemistry. May include but is not limited to
properties of solids and liquids, gas/liquid and solid/liquid
interfacial chemistry, optical and electron spectroscopy,
and chemical dynamics. Three hours of lecture per week.

432(5322) Application of Thermodynamics and
Reaction Kinetics in Chemistry (3)
Prerequisite: Chem 232(3322). Review of equilibrium
thermodynamics. Focus is on statistical thermodynamics
and reaction kinetics with an emphasis on solution phase
chemistry. Three hours of lecture per week.

435(5452) Quantum Mechanical Foundations of
Spectroscopy (3)
Prerequisites: Chem 232(3322). A review of relevant
principles and techniques of quantum mechanics. Focus is
on the use of quantum theory and molecular symmetry
(group theory) to understanding the structure and
interpreting the spectra of atoms and molecules. Three
hours of lecture per week.
439(5394) Special Topics in Physical Chemistry (1-3)
Prerequisite: Consent of instructor. Selected topics in physical chemistry. May be taken more than once for credit.

441(5412) Typical Element Chemistry (3)
Prerequisite: Chem 341(4412) or an equivalent course. Chemistry of the main group elements and their compounds including such topics as electron deficient compounds, acids, bases and nonaqueous solvents, catenation and inorganic polymers, the solid state, organotypical element chemistry and energetics. Three hours of lecture per week.

442(5422) Coordination Chemistry (3)
Prerequisite: Chem 341(4412) or an equivalent course. Chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability and electronic spectra. Three hours of lecture per week.

443(5432) Spectroscopic Methods in Inorganic Chemistry (3)
Prerequisites: Chem 341(4412) or an equivalent course. Study of modern spectroscopic characterization methods of particular importance to inorganic systems, with emphasis on such techniques as multinuclear NMR spectroscopy, UV/visible and EPR spectroscopy, IR/Raman spectroscopy, and Mossbauer spectroscopy. Application of such methods to questions of structure, bonding and reactivity. Three hours of lecture per week.

445(5452) Organometallic Chemistry of the Main Group Elements (3)
Prerequisites: Chem 341(442) or an equivalent course. A systematic study of main group elements containing carbon-metal or carbon-metalloid bonds. Emphasis will be on preparative methods, structures and reactions of various classes of compounds. Three hours of lecture per week.

446(5462) Organometallic Chemistry of the Transition Elements (3)
Prerequisites: Chem 341(4412) or an equivalent course. A study of the transition metal compounds containing metal-carbon bonds and related metal-element bonds, including their synthesis, structure and bonding, and reactions. Applications in organic synthesis and catalysis will also be presented. Three hours of lecture per week.

448(6487) Problem Seminar in Inorganic Chemistry (1)
Prerequisite: Consent of the inorganic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

449(5494) Special Topics in Inorganic Chemistry (1-3)
Prerequisite: Consent of instructor. Selected topics in inorganic chemistry. May be taken more than once for credit.

460(5602) Advanced Organic Chemistry I - Physical Organic (3)
Prerequisites: Chem 262(2622) and 232(3322) Mechanism and theory of organic chemistry. Topics to include kinetics, transition state theory, reaction intermediates, and stereochemical analysis. Three hours of lecture per week.

461(5612) Advanced Organic Chemistry II - Reactions and Synthesis (3)
Prerequisite: Chem 262(2622). Examination of a variety of organic transformations typically utilized in organic synthesis. Topics will include carbon-carbon bond formation, pericyclic reactions, oxidation, reduction, and functional group interconversions. Mechanism and stereochemistry will be emphasized. Three hours of lecture per week.

468(6687) Problem Seminar in Organic Chemistry (1)
Prerequisite: Consent of the organic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students, and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

469(5694) Special Topics in Organic Chemistry (3)
Prerequisite: Consent of instructor. Advanced topics of special current interest. May be taken more than once for credit. Topics that may be offered include: methods of organic synthesis, organometallics in organic synthesis, topics in bioorganic chemistry, organic thermochemistry, natural products chemistry, stereochemistry, photochemistry, heterocyclic chemistry, medicinal chemistry.

478(6787) Problem Seminar in Biochemistry (1)
Prerequisites: Consent of the biochemistry staff. Problems from the current literature, presentations and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

479(5794) Special Topics in Biochemistry (1-3)
Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.
481(6812) Introduction to Graduate Study in Chemistry (1)
Prerequisite: Consent of Graduate Adviser. Topics to be covered include: techniques of teaching of Chemistry in colleges and universities, methods of instruction and evaluation; and responsibilities of the Graduate Teaching Assistant in laboratory instruction; safety in the undergraduate laboratory, safety practices, emergency procedures; selection of research project and thesis adviser.

482(6822) Introduction to Graduate Research in Chemistry (1)
Prerequisites: Consent of Graduate Adviser. Topics include: safety in the research laboratory, safety practices, emergency procedures, hazardous materials, waste disposal, radiation safety; research ethics; chemistry information retrieval, computer assisted information retrieval, types of databases, searching bibliographic data bases.

489(6897) Chemistry Colloquium (1)
Presentation of papers by students, faculty, and invited speakers. One hour per week.

490(6905) Graduate Research in Chemistry (1-10)
Department of Criminology and Criminal Justice

Faculty

Richard B. Rosenfeld, Professor*, Chairperson, Ph.D., University of Oregon
Robert Bursik, Professor*
Ph.D., University of Chicago
G. David Curry, Professor*
Ph.D., University of Chicago
Scott H. Decker, Professor*
Ph.D., Florida State University
Janet L. Lauritsen, Professor*
Ph.D., University of Illinois-Urbana
Richard Wright, Professor*, Ph.D., Cambridge University
Bruce A. Jacobs, Associate Professor*
Ph.D., University of Southern California
David Klinger, Associate Professor*
Ph.D., University of Washington
Jody Miller, Associate Professor*
Ph.D., University of Southern California
Allen E. Wagner, Associate Professor Emeritus
Ph.D., Washington University
Eric Baumer, Assistant Professor*
Ph.D., State University of New York at Albany
Norman A. White, Assistant Professor*
Ph.D., State University of New York at Albany
Rodney Brunson, Instructor, ABD, University of Illinois-Chicago
Timothy Maher, Lecturer
M.A., University of Missouri-St. Louis
Norman Malloyd, Lecturer
M. A., University of Missouri-St. Louis
Margaret Phillips, Lecturer
Ph.D., Saint Louis University

*members of Graduate Faculty

Criminology and criminal justice faculty represent several academic disciplines. By integrating practice with theory, faculty are able to present a comprehensive picture of crime and the justice system. This nexus of theory and application is found most directly in the department's emphasis on understanding policy in criminology and criminal justice. All components of crime and justice are represented in the curriculum including criminal behavior, delinquency, crime prevention, arrest, prosecution, defense, court processing, probation, prison, and parole. A special feature of the program is the cadre of local professionals who supplement the regular faculty. A federal appeals-court judge, local prosecutor, correctional supervisor, and probation supervisor are among this group.

General Information

Degrees and Areas of Concentration The department offers courses leading to the Bachelor of Science, the Master of Arts, and Ph.D., in criminology and criminal justice.

Cooperative Programs Faculty of the criminology and criminal justice department hold appointments as fellows in the Center for Metropolitan Studies, the Center for International Studies and the Institute for Women's and Gender Studies. Workshops, projects, credit courses, and other social services are brought to the criminal justice community.

Internships Majors are strongly encouraged to participate in CCI 280, Internship in Criminology and Criminal Justice, during their junior or senior year. The internship affords students the opportunity to gain experience in a criminal justice agency under the joint supervision of agency personnel and criminology and criminal justice faculty.

Minor in Criminology and Criminal Justice The minor gives recognition to those students from other major areas who find that criminology and criminal justice courses fit their academic or professional needs and/or interests.

Undergraduate Studies

General Education Requirements Majors must satisfy the university and college general education requirements. Courses used to fulfill the social science or state requirement may not be taken from courses in the major. Foreign language proficiency is not required, although students are encouraged to take foreign language courses. Majors may not take the following courses on a satisfactory/unsatisfactory basis: criminology and criminal justice courses; Sociology 220, Quantitative Techniques in Sociology; or Sociology 230, Research Methods. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken on a satisfactory/unsatisfactory basis.

Degree Requirements

Courses used to fulfill the social science or state requirements may not be taken from courses in the major.

Students may register for 300-level courses only after obtaining a signature from the adviser in criminology and criminal justice. All prerequisites must be satisfied prior to enrolling in a course.

CCJ majors may not take course numbers 010(1100), 260(2260), or 345(3345) offered through UM-Independent Studies to fulfill degree requirements in the major.

Bachelor of science in criminology and criminal justice candidates must complete the core curriculum listed below:
Core Curriculum  The following courses in criminology and criminal justice are required:
10 (1100), Introduction to Criminology and Criminal Justice
110(1110), Theories of Crime
120(1200), Criminal Law
130(1130), Criminal Justice Policy
210(2210), Research Methods in Criminology and Criminal Justice
220(2220), Statistical Analysis in Criminology and Criminal Justice
390(4390), Seminar in Criminology and Criminal Justice.

One additional 200 level or above course in Criminology and Criminal Justice.

Two courses from the following four:
230(2230), Crime Prevention
240(2240), Policing
260(2260), Corrections
270(2270), Juvenile Justice

Two courses at the 300 level:
300(4300), Communities and Crime
305(3305), Comparative Criminology and Criminal Justice
310(3310), Computers in Criminal Justice
315(5515), Ethics in Criminology and Criminal Justice
320(4320), Forms of Criminal Behavior
325(4325), Gender, Crime, and Justice
330(3304), History of Crime and Justice
335(4335), Probation and Parole
340(4340), Race, Crime, and Justice
345(3345), Rights of the Offender
350(4350), Victimology
380(4380), Special Topics in Criminology and Criminal Justice

Elective Courses
99(1990), The City
180, Alcohol, Drugs and Society
227(2227), Urban Law: Poverty and the Justice System
Prerequisite: Administration of Justice 70 or equivalent, or consent of instructor.
280(3280), Internship in Criminology and Criminal Justice
290(3290), Special Readings

Requirements for the Minor  The minor has been designed to ground students in the basics of criminology and criminal justice.
All minor candidates must take:
10(1100), Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:
110(1110), Theories of Crime
120(1120), Criminal Law
130(1130), Criminal Justice Policy

Candidates must then complete 6 hours of criminology and criminal justice course work at the 200 level or above.
Candidates must have a cumulative grade point average of 2.0 or better in the minor. None of the courses may be taken on a satisfactory/unsatisfactory (s/u) basis.

Graduate Studies

Master of Arts in Criminology and Criminal Justice  The department offers a master of arts degree in criminology and criminal justice, which provides students with advanced theoretical and methodological training for research and management careers in criminal justice.

Admission Requirements  The minimum GPA for regular admission to graduate study is 2.75 on a 4-point scale. However, students may be admitted under restricted status with a GPA of 2.5.

Students admitted with a 2.5 to 2.75 GPA will be reviewed after completing 6 credit hours of graduate work. Admission is competitive.

Degree Requirements  The M.A. in criminology and criminal justice requires the completion of 33 credit hours, at least 18 of which are in criminology and criminal justice. All students must satisfy a 15-hour core course requirement. Additionally, M.A. candidates must take at least two of four graduate "option" courses offered by the department. Students may choose between a thesis and non-thesis course of study.

Core Curriculum
400(6400), Proseminar: Criminology and Criminal Justice
405(6405), Methods
410(6410), Statistics
415(5415), Foundations of Criminological Theory
420(6420), Contemporary Criminological Theory

Two of the following four courses
451(6451), Juvenile Justice System
452(6452), The Police
453(6453), Adjudication
454(6454), Corrections

Transfer Courses  Transfer courses are evaluated for acceptance on a case-by-case basis subject to the rules and regulations of the Graduate School.
Application to the Ph.D. Program

Eligibility Undergraduate applicants must have a baccalaureate degree or expect one by the end of the academic year in which they apply. Applicants must have a grade point average of 3.0 or greater (on a scale of A = 4.0) for the last 60 hours of undergraduate work.

Graduate applicants who have or will have a master's degree must have a grade point average of 3.0 or greater (on a scale of A = 4.0) for their graduate course work.

Application To consider an applicant for admission, the Department of Criminology and Criminal Justice must have transcripts, three letters of recommendations, GRE scores and a writing sample. Applicants with master's degrees should include a chapter of their thesis. International students whose native language is not English are required to submit scores from the TOEFL examination.

Amount of Course Work Sixty post-baccalaureate hours of graduate work are required for the Ph.D. More than half of these hours must be completed in residence. Twelve credit hours of dissertation research (CCJ 499(7499)) are required. Students may enroll for dissertation credits (CCJ 499(7499)) only when all other degree requirements have been completed.

Required courses for the Ph.D. are:
400(6400), Proseminar
405(6405), Methods
410(6410), Statistics
415(5415), Foundations of Criminological Theory
420(6420), Contemporary Criminological Theory
440(6440), Nature of Crime
450(6450), Criminal Justice Organization
465(6465), Qualitative Research Design
470(6470), Quantitative Research Design
471(6471), Evaluating Criminal Justice Interventions
475(5475), Evaluation Research Methods
480(6480), Multivariate Statistics

Students are also required to complete at least 9 hours from the following courses:
430 (6430), Law and Social Control
431(6431), The Nature of Punishment
432(6432), Criminal Law
433(5533), Philosophy of Law
434(6434), Human Rights
435(6422), Law, Courts, and Public Policy
436(6436), Comparative Legal Systems
437(6437), Private Justice
441(6441), Juvenile Delinquency
442(6442), Communities and Crime
443(6443), Violent Crime
444(6444), Organizational Crime
445(6445), Property Crime
446(6446), Sex Crime
447(6447), Public Order Crime
448(6448), Victimization
451(6451), Juvenile Justice Systems
452(6452), The Police
453(6453), Adjudication
454(6454), Corrections
455(5555), Ethical and Legal Issues in Criminal Justice

Additional courses beyond the above requirements are taken as elective courses. These courses may be at the 300- or 400-level. Students are also encouraged to take courses outside the Department of Criminology and Criminal Justice.

Comprehensive Examination Graduate students in the Ph.D. program cannot become recognized as Ph.D. candidates until they have passed the comprehensive examination. The goals of the comprehensive examination are to assess the student's familiarity with substantive literature, theory and methods of criminology and criminal justice and to evaluate the student's intellectual imagination and ability to apply knowledge to broad criminological questions.

The qualifying examination will consist of two parts-the first focusing on crime and criminality and the second on either law and social control or criminal justice. The choice of the second part is made by the student. Each will integrate theory and methods into the substantive literature.

Part one of the exam will consist of a six-hour examination without access to notes or external references. Part two will be a 48-hour, non-collaborative, take-home examination. The student will pick which subject area is taken under which testing format.

Other information about the qualifying exam is available from the department.

The Dissertation The dissertation is required of all Ph.D. candidates and demonstrates the student's scholarly expertise. The dissertation process formally begins when all other requirements of the Ph.D. program have been met. The dissertation committee assists in selecting and developing the research problem and evaluates the student's work on that problem.

Career Outlook

The orientation of the criminology and criminal justice faculty and of the degree program prepares the graduate to work professionally for local, state, and federal agencies concerned with maintaining public safety by the prevention of crime and apprehension and rehabilitation of offenders. The B.S. in criminology and criminal justice is also advantageous for careers with various social agencies, especially those connected with the juvenile court system, probation and parole, and local police. Many students use the B.S. in criminology and criminal justice as preparation for law school.
The interdisciplinary curricula unify a body of knowledge from criminology, social science, law, public administration, and corrections, giving a unique preparation for and providing the student with an understanding of the assumptions, values, and processes of the system of justice. Many prelaw students choose criminology and criminal justice as an undergraduate major because of the excellent preparation offered for law school. An internship program is offered for college credit. The liaison, supervision, and experience with public agencies that form an integral part of this program help the student arrive at a career decision.
Course Descriptions

Prerequisites may be waived by consent of the department or instructor.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:
10(1100), 20(1200), 75(1075), 99(1990), 110(1110), 120(1120), 130(1130), 180(2180), 210(2210), 220(2220), 226(2226), 230(2230), 240(2240), 260(2260), 270(2270), 290(3290), 300(4300), 305(3305), 310(3310), 315(5515), 320(4320), 325(4325), 330(3043), 335(4335), 340(4340), 345(3345), 350(4350), 380(4380), 390(4390).
The following courses fulfill the Humanities breadth of study requirements: 152(2252).

10(1100) Introduction to Criminology and Criminal Justice (3)
Introduction to the basic concepts and approaches in the study of criminology and criminal justice. The major components of the criminal justice system are examined. Course fulfills the state requirement.
20(1200) Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]
(Same as ID 20(1200), and PoliSci 20(1200). As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.
75(1075) Crime and Punishment (3)
(Same as Sociology 75(1075) and Interdisciplinary 75(1075). An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.
99(1990) The City (3) [MI, V, SS]
(Same as PolSci 99(1990), Sociology 99(1999), and Interdisciplinary 99(1990). Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.
110(1110) Theories of Crime (3)
Prerequisite: CCJ 10(1100). Introduction to major theoretical approaches to the study of crime and justice.
120(1120) Criminal Law (3)
Prerequisite: CCJ 10(1100). Analysis of substantive criminal law, evidence and judicial procedure.
130(1130) Criminal Justice Policy (3)
Prerequisite: CCJ 10(1100). Introduction to criminal justice policy making, planning, and implementation.
152(2252) Philosophical Foundations of Criminal Justice (3) [V]
(Same as Philosophy 152(2252). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pretrial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey the laws? Are laws restricting civil liberty (e.g., laws against abortion, homosexuality, or drug use) permissible.
180(2180) Alcohol, Drugs, and Society (3)
(Same as Sociology 180(2180). Prerequisite: Sociology 10(1010) or Psych 3(1003). This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.
210(2210) Research Methods in Criminology and Criminal Justice (3)
Prerequisite: CCJ 10(1100). Examination of basic methods of research design, measurement and data collection in criminology and criminal justice.
220(2220) Statistical Analysis in Criminology and Criminal Justice (3)
Prerequisites: CCJ 210(2210) and math university math requirement. An introduction to techniques of quantitative data analysis. Both descriptive and inferential statistics are applied to problems in criminology and criminal justice.
226(2226) Law and the Individual (3)
(Same as PolSci 226(2260). Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policy-making and dispute resolution. Course fulfills the state requirement.

230(2230) Crime Prevention (3)
Prerequisite: CCJ 10(1100). Examination of situational, social, and legislative approaches to the prevention of crime and delinquency. Emphasis on theories, implementation and consequences of these approaches.

233(4487) Philosophy of Law (3)
Prerequisite: CCJ 10(1100) and 3 hours of philosophy and/or consent of instructor. (Same as Philosophy 387(4920) An examination of typical problems raised by law, including the basis of legal obligations and rights, relations between law and morality, the logic of legal reasoning, and the justification for punishment. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

240(2240) Policing (3)
Prerequisite: CCJ 10(1100). Overview of current and historical perspectives on the function of American policing. Emphasis on the management of police organizations and relationships with the community.

260(2260) Corrections (3)
Prerequisite: CCJ 10(1100). Examination of correctional philosophies and practices. Emphasis on the history of correction, the formal and informal organization of correction facilities, inmate rights, and correctional alternatives.

270(2270) The Juvenile Justice System (3)
Prerequisite: CCJ 10(1100). Examination of formal and informal responses to juvenile delinquency. Emphasis on theories of delinquency and the decision-making processes of police, court and probation officials.

280(3280) Internship in Criminology and Criminal Justice (3)
Prerequisite: Junior standing. Internship under faculty supervision in criminal justice setting.

290(3290) Special Readings (1-6)
Prerequisite: Consent of instructor. Individualized study, under regular faculty supervision, designed to meet particular educational needs of selected students.
335(4335) Probation and Parole (3)
Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of alternatives to incarceration and postincarceration supervision. Emphasis on diversion, restitution, and community reintegration.

340(4340) Race, Crime, and Justice (3)
(Same as Sociology 340(4340). Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

345(3345) Rights of the Offender (3)
Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of the objectives of criminal law regarding the rights of persons suspected or convicted of crime. Emphasis on rights regarding the police, the court, and in correctional settings.

350(4350) Victimology (3)
Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of major perspectives on victimization. Emphasis on patterns of victimization, the role of victims in the generation of crime, and the experience of the victim in the criminal justice system.

380(4380) Special Topics in Criminology and Criminal Justice (3)
Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2110), 220(2220). In-depth study of a selected topic in criminology and criminal justice.

390(4390) Seminar in Criminology and Criminal Justice (3)
Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), and senior standing. In this capstone course, students demonstrate the ability to work independently, integrating theory and research in criminology and criminal justice in a major paper supervised by the instructor.

400(6400) Proseminar (3)
Prerequisite: Graduate standing. (Must be taken in the first semester.) A critical examination of theoretical, methodological and policy issues in criminology and criminal justice. Focus is on the nature of crime, policing, pretrial processes, adjudication, and corrections.

405(6405) Methods (3)
Prerequisites: Graduate standing. Examination of basic methods for research design and data collection. Topics include participant observation and interviewing, survey research, aggregate data analysis, and experimental design.

410(6410) Statistical Applications in Criminology and Criminal Justice (3)
Prerequisites: CCJ 405(6405). Examination of elementary principles of quantitative analysis and their application to crime and justice problems. Topics include univariate, bivariate and multivariate procedures for discrete and continuous data, and a comprehensive introduction to ordinary least squares regression.

415(5415) Foundations of Criminological Theory (3)
(Same as Sociology 415(5415). Prerequisite: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420(6420) Contemporary Criminological Theory (3)
Prerequisite: CCJ 415(5415). Examination of contemporary explanations of crime and criminal justice. Theories covered include strain, control, cultural, labeling, conflict, as well as more recent attempts at theoretical integration and multidisciplinary integration.

430(6430) Law and Social Control (3)
(Same as Sociology 461(5461). Prerequisites: Graduate standing and consent of instructor. Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

431(5531) The Nature of Punishment (3)
(Same as Philosophy 431(5531). Prerequisite: Graduate standing. Or consent of instructor. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

433(5533) Philosophy of Law (3)
(Same as Philosophy 433(5533). Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

434(6434) Human Rights (3)
Prerequisite: Graduate standing or consent of instructor. Examination of human rights from historical and cross cultural perspectives. Topics include capital and corporal punishment, political prisoners, rights of the accused, and rights of those imprisoned.
435(6422) Law, Courts, and Public Policy (3)
(Same as PolSci 422(6422). Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

436(6436) Comparative Legal Systems (3)
Prerequisite: Graduate standing or consent of instructor. Examination of crime and criminal justice systems in world perspective.

437(6437) Private Justice (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the private sector's impact on formal criminal and juvenile justice systems, as well as the development of private security and informal justice systems. Financial incentives, moral and legal issues are explored.

440(6440) Nature of Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of patterns and correlates of crime at the individual, situational, and aggregate levels. Topics include definitions of crime, offending typologies, and criminal careers.

441(6441) Juvenile Delinquency (3)
Prerequisite: Graduate standing or consent of instructor. Examination of youth crime and juvenile offenders. Topics include definitions of juvenile crime, and theories of juvenile crime causation in the United States.

442(6442) Communities and Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the trends and sources of crime and social disorder across communities. The course emphasizes relationships among crime, fear of crime, neighborhood change, neighborhood responses to crime, and public policies.

443(6443) Violent Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the sources and patterns of violent offending across time and space. Topics include conceptions and typologies of violent crimes and offenders, victim-offender relationships, and efforts to predict and control violent offending.

444(6444) Organizational Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of crime by and within groups. Focuses on the types of criminal behavior known as organized crime, white collar crime, and political corruption.

445(6445) Property Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the sources and patterns of property offending across time and space. Topics include conceptions and typologies of property crimes and offenders, victim-offender relationships, and efforts to predict and control property offending.

446(6446) Sex Crime (3)
Prerequisite: Graduate standing and consent of instructor. Examination of consensual and non-consensual sexual offending. Topics include historical development of laws regulating sexual conduct, controversies surrounding the application of these laws, and the nature and distribution of sexual offenses.

447(6447) Public Order Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the nature of, prevalence of, and efforts to control public order crimes such as gambling, illicit drug use, prostitution, vagrancy, and disorderly conduct. The function of public order crimes as a means to control disruptive or threatening persons and groups is emphasized.

448(6448) Victimization (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the risks and consequences of crime for its victims. Issues considered include victim-offender relationships, characteristics of victims, the nature of the injuries they experience and criminal justice procedures that involve them.

450(6450) Criminal Justice Process and Policy (3)
Prerequisite: Graduate standing. An analysis of criminal justice as a network of decisions and complex organizations. Topics include sources of criminal justice policy, policy agendas, implementation and evaluation.

451(6451) Juvenile Justice Systems (3)
Prerequisite: Graduate standing. An examination of the historical evolution of juvenile justice and the processes by which specific behaviors are identified as delinquent. Informal responses to delinquency also are explored.

452(6452) The Police (3)
Prerequisite: Graduate standing or consent of instructor. Historical, social and political analysis of policing in America. Examination of federal, state, county, and municipal agencies.

453(6453) Adjudication (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the objectives, institutions and processes involved in the adjudication of offenders. Topics address the structure and function of the judicial system and principal court actors.
454(6454) Corrections (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the history, forms, and functions of correctional philosophies, institutions, programs, and policies. Topics include the structure and functions of prisons and jails, community corrections, intermediate sanctions, and the growth of correctional control in modern society.

455(5555) Ethical and Legal Issues in Criminal Justice (3)
( Same as Philosophy 455(5555). Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology and research and professional ethics.

465 (6465) Qualitative Research Design (3)
Prerequisite: Graduate standing. Examination of participant observation and informant and respondent interviewing. Topics include gaining access, sampling, data collection and analysis, and legal and ethical concerns.

470(6470) Quantitative Research Design (3)
Prerequisite: CCJ 405(6405) and CCJ 410(6410). Examination of experimental, longitudinal, and cross-sectional designs. Sources of data, sampling procedures, operational definitions, and issues of reliability are also discussed.

471(6471) Evaluating Criminal Justice Interventions (3)
Prerequisites: CCJ 405(6405) and CCJ 410(6410). This course examines a broad range of interventions designed to prevent crime or improve some aspect of the criminal justice system. The validity, reliability, and feasibility of differing intervention designs are addressed. Several major criminal justice evaluations are discussed.

475(5475) Evaluation Research Methods (3)
( Same as Psych 475(5475), Sociology 475(5475), and Public Policy Administration 475(6750). Prerequisites: At least one course in Research Design and Statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

480(6480) Multivariate Statistics (3)
Prerequisite: CCJ 410(6410). Introduction to the general linear model with applications to multivariate problems in criminology and criminal justice. Topics include advanced ordinary least squares, causal modeling, time series analysis, simultaneous equations, and analysis of limited dependent variables.

485(6485) Directed Readings/Research in Criminology and Criminal Justice (1-6)
Prerequisite: Consent of Instructors. Directed reading and research, under faculty supervision, designed to meet particular educational needs of selected students.

495(6495) Internship in Criminology and Criminal Justice (3)
Prerequisite: Graduate standing or consent of instructor. Supervised placements with criminal justice agencies. Designed primarily for students with limited field experience.

498 (6498) M.A. Thesis Research (1-6)
Prerequisites: Graduate standing and consent of instructor.

499 (7499) Ph.D. Dissertation Research (1-6)
Prerequisite: Graduate standing or consent of instructor. To be arranged.
Department of Economics

Faculty

Susan K. Feigenbaum, Professor*, Chairperson
Ph.D., University of Wisconsin
Sharon G. Levin, Professor*, Director of Graduate Studies; Assistant Chairperson
Ph.D., University of Michigan
Lawrence H. White, Professor; Friedrich A. Hayek
Professor in Economic History
Ph.D., University of California, Los Angeles
Thomas R. Ireland, Professor*
Ph.D., University of Virginia
Joseph P. McKenna, Professor Emeritus
Ph.D., Harvard University
William E. Mitchell, Professor Emeritus
Ph.D., Duke University
Donald Phares, Professor*
Ph.D., Syracuse University
David C. Rose, Professor*
Ph.D., University of Virginia
Robert L. Sorensen, Professor*, Director of Undergraduate Studies
Ph.D., Virginia Polytechnic Institute
Clinton A. Greene, Associate Professor*
Ph.D., University of California-Davis
Donald J. Kritel, Associate Professor*
Ph.D., University of Arizona
Timothy McBride, Associate Professor*
Economics, Public Policy Administration, and Gerontology
Ph.D., University of Wisconsin-Madison
Herbert D. Werner, Associate Professor Emeritus*
Ph.D., University of California-Berkeley
Anne Winkler, Associate Professor*, Economics and Public Policy Administration
Ph.D., University of Illinois at Urbana-Champaign
Debin Ma, Assistant Professor
Ph.D., University of North Carolina
Sarapage McCorkle, Assistant Professor*, Director, Center for Entrepreneurship and Economic Education
Ed.D., University of Missouri-St. Louis
Michael T. Allison, Senior Lecturer
A.B.D., University of Virginia
Kathleen Phares, Senior Lecturer
M.A., University of Missouri-St. Louis

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration Several degree programs are offered by the economics department. The B.A. in economics provides a flexible liberal arts orientation for students. The B.S. in economics places more emphasis upon developing the analytical and quantitative skills used in analysis. Both degrees can be tailored to meet the career interests of the student.

The economics faculty considers research an integral part of good teaching. Research projects in recent years have dealt with energy, public choice, industrial organization, nonlinear modeling, property rights, wage discrimination, urban economic development, health economics and aging, economics of science, economics of gender, poverty and welfare, and government regulations.

The economics department also offers courses at the undergraduate level in geography.

A graduate program offers work leading to the M.A. degree in economics in preparation for careers in teaching, research, government, and industry. The program includes course work in macroeconomic theory, urban, international, industrial, and quantitative economics; and research methodology. The program can accommodate prospective full-time students as well as those who wish to study part-time solely in the evening. Classes are small, and student-faculty interaction is encouraged.

The economics department cooperates with the College of Business Administration and the Master's in Public Policy Administration program.

Departmental Honors A student may earn departmental honors with a GPA of 3.6 in economics and the recommendation of the department.

Minor in Economics A minor in economics is also available. See the following section for requirements.

Undergraduate Studies

General Education Requirements
All undergraduate economics majors must meet the university and college general education requirements. Candidates for the B.A. degree may take any foreign language to meet this requirement. Candidates for the B.S. degree take mathematics and quantitative courses instead of the foreign language requirement. Courses in economics may be used to meet the university social sciences requirement.

Education majors specializing in economics must fulfill the requirements for the bachelor of arts degree. These majors are responsible for obtaining an adviser in the Department of Economics.

All prerequisites for economics courses must be completed with a C- or better.

Satisfactory/unsatisfactory Option
Courses outside the major field and Economics 51(1001), Principles of Microeconomics, and Economics 52(1002), Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory basis.
## Degree Requirements

**Bachelor of Arts in Economics** Candidates for the B.A. degree must take at least 33, but no more than 45, hours in economics. At least 27 hours must be above the 200 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:

- Math 100(1100), Principles of Microeconomics
- Math 101(1101), Principles of Macroeconomics
- Econ 220(3200), Money, Banking, and Monetary Theory
- Econ 251(3001), Intermediate Economic Theory: Microeconomics
- Econ 252(3002), Intermediate Economic Theory: Macroeconomics
- Econ 265(3100), Economic Statistics
- Econ 380(3800), History of Economic Thought

**Bachelor of Science in Economics** Candidates for the B.S. degree must: complete at least 36, but no more than 45, hours in economics. At least 30 hours must be above the 200 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:

- Math 100(1100), Principles of Microeconomics
- Math 101(1101), Principles of Macroeconomics
- Econ 220(3200), Money, Banking, and Monetary Theory
- Econ 251(3001), Intermediate Economic Theory: Microeconomics
- Econ 252(3002), Intermediate Economic Theory: Macroeconomics
- Econ 265(3100), Economic Statistics
- Econ 365(4100), Mathematical Statistics
- Econ 370(4110), Econometric and Time Series Forecasting
- Math 80(1800), Analytic Geometry and Calculus I, or Math 100(1100), Basic Calculus

*Also required are two of the following:*

- Econ 350(4150), Mathematical Economics
- Econ 352(4040), Analysis of Business Cycles
- Econ 353(4030), Managerial Economics
- Econ 366(4110), Applied Econometrics
- Econ 367(4130), Econometric and Time Series Forecasting
- Econ 51(1001), Principles of Microeconomics
- Econ 52(1002), Principles of Macroeconomics
- Econ 520(1200), Mathematical Statistics

*Complementary Areas of Study*

The department encourages all majors to develop breadth in related disciplines. Course work and minors are available in a number of areas such as business administration, computer science, statistics, and political science. Students should check with their advisers for recommendations concerning courses in these areas. The department suggests the following supplemental course work for students interested in pursuing doctoral-level graduate work in economics or careers in general business. It also encourages all students to obtain work experience by enrolling in the Internship in Applied Economics (Econ 390/4990).

## Graduate School Preparation

It is recommended that students considering doctoral-level graduate work in economics also take:

- Math 175(1900), Analytical Geometry and Calculus II
- Math 180(2000), Analytical Geometry and Calculus III
- Math 245(2450), Linear Algebra
- Math 320(4200), Mathematical Statistics

## General Business Preparation

It is recommended that students interested in pursuing careers in business also take:

- BA 140(2400), Fundamentals of Financial Accounting
- BA 145(2410), Managerial Accounting
- BA 156(2900), Legal Environment of Business
- BA 204(3500), Financial Management
- BA 206(3700), Basic Marketing

## Requirements for the Minor

Candidates for a minor in economics must take a minimum of 18 hours in economics. At least 12 hours must be above the 200 level. Econ 265(3100), Economic Statistics, cannot be counted towards the economics minor if the student has also taken Math 31(1310), Math 132(1320), BA 105, or the equivalent.

*The following courses are required:*

- Econ 51(1001), Principles of Microeconomics
- Econ 52(1002), Principles of Macroeconomics
- Econ 251(3001), Intermediate Economic Theory: Microeconomics
- Econ 252(3002), Intermediate Economic Theory: Macroeconomics
- Econ 265(3100), Economic Statistics
- Econ 365(4100), Mathematical Statistics
- Econ 370(4110), Econometric and Time Series Forecasting
- Econ 51(1001), Principles of Microeconomics
- Econ 52(1002), Principles of Macroeconomics
- Econ 51(1001), Principles of Microeconomics
- Econ 52(1002), Principles of Macroeconomics

It is also recommended that students take Econ 252(3002), Intermediate Economic Theory: Macroeconomics

*Also required is a GPA of 2.0 or better for courses presented for the minor. The satisfactory/unsatisfactory (s/u) option may be applied to Econ 51(1001) and 52(1002) only.*

## Graduate Studies

### Two-Three B.S./M.A. Dual Degree Program in Economics

The 2+3 B.S./M.A. in Economics is designed to allow selected students — transfer and native — to complete the requirements for both degrees in five years of full-time study (where full time is defined as 15 credit hours each semester or 30 credit hours per calendar year). The accelerated nature of this program requires the student to take up to 12 hours of approved 300/400 level dual-listed courses in the senior year, which will also be applied towards the Master’s degree requirements. The total number of credit hours required to complete the B.S. + M.A. dual program will equal 138 graded semester credit hours.
Admission Requirements: Students should apply to the Director of Graduate Studies for admission to the dual B.S./M.A. program the semester they will complete 60 graded undergraduate hours or as soon thereafter as possible. It is expected that this course work will include the general education requirements as well as college algebra or a higher-level mathematics course, introductory microeconomics and macroeconomics. A minimum G.P.A. of 3.0 is also required. Applicants must submit a nomination from a full time regular economics faculty member.

Provisional Status: Students who are accepted into the program will be admitted provisionally. During the third-year of full-time study (the first year of on-campus study for transfer students arriving with an associates degree from a 2-year college), the student will concentrate on course work required for the B.S. degree in economics. This will normally include completion of Economics 220(3200) 251(3001), 252(3002), 265(3100); at least 6 hours of economics electives; course work in mathematics; and electives in related areas. Provisional status will be lifted when 30 hours of approved semester credit hours are completed with a GPA of 3.0 or higher.

Dual Enrollment: During the fourth and fifth years of study, students will be allowed to dual enroll in both undergraduate and graduate courses with the consent of their advisor. To complete the remaining requirements for the B.S. degree, the student will normally enroll in: Economics 365(4100); three additional electives in economics of which two must be selected from Economics 350(4150), 352(4040), 353(4030), 366(4110), or 367(4130); up to three 400 level courses in economics; and additional hours of undergraduate course work to complete a total of 120 credit hours. (Not more than 45 hours of economics course work may be counted towards the major.) Of the hours taken at the 300/400 level in economics, up to 12 hours will be counted towards the 30-hour minimum (after all prerequisites have been met) required for the Masters degree. After the student has completed the first 120 hours required for the undergraduate degree, the final year of study will normally require completion of 18 hours of additional courses at the 300/400 level. These must include Economics 403(5140), 451(5001), 452(5002), and 465(5100). The Director of Graduate Studies must approve all courses for the dual degree.

Awarding of Degree: The BS/MA degrees will be awarded when all requirements for the MA degree have been completed. Students who officially withdraw from the "2 + 3" Dual Degree Program in Economics and who have successfully completed all of the requirements for the BS degree will be awarded the BS degree.

College of Arts & Sciences
Department of Economics

Master of Arts in Economics
The Department of Economics offers a Master of Arts in Economics with two options: general economics and business economics.

Admission Requirements
An undergraduate major in economics is not required for acceptance into the program. Application for admission may be submitted at any time, although class work formally begins in late August, mid-January, and mid-June. Candidates must meet the general admission requirements of the Graduate School, submit GRE scores (Advanced Economics optional), and submit two letters of recommendation from persons qualified to judge the candidate's potential for success in the program.

The admissions decision is based on the applicant's academic transcript, GRE scores, letters of recommendation, and a personal narrative on the application form.

Departmental Honors A student may earn departmental honors with a GPA of 3.75 in all required courses for the M.A. degree and the recommendation of the department.

Degree Requirements
Candidates for the M.A. in economics must complete a core curriculum that provides training in the fundamental areas of economic theory, quantitative methods, and communication skills. Students then select either the general economics or business economics option.

Required Core Courses
The following courses or their equivalents are required for both the general economics and business economics option. Students with previous education in economics or business may waive some of these courses.

Econ 350(4150), Mathematical Economics
BA 410(5001), Managerial Economic Analysis
BA 411(5002), Analysis of National Economic Environment
MS/IS 481(5300), Statistical Analysis for Management Decisions
Econ 403(5140), Seminar in Economic Research
Econ 451(5001), Microeconomic Analysis
Econ 452(5002), Macroeconomic Analysis
Econ 465(5100), Econometric Theory and Methods

General Economics
The general economics option is designed for students interested in a broad-based background in the traditional fields of economics. It is intended for those who wish to teach basic economics or pursue further graduate study in economics. A recommended study program is available for students who plan to pursue a Ph.D. at another university after completing the M.A. in economics at UM-St. Louis.
The general economics option requires 42 credit hours. Students with previous education in economics or business may waive up to 12 hours of the 42 hours required.

Regardless of the number of required courses waived, at least 30 hours of graduate work must be completed within a six-year period to earn the degree. A minimum of 21 hours must be completed while enrolled in the M.A. in economics program at UM-St. Louis.

Required Courses
Candidates must complete the required core courses.

Electives
Candidates must complete at least 18 hours of electives. A maximum of 6 hours of economics electives may be taken at the 300 level. With the approval of the graduate coordinator, students may take up to 9 hours of graduate courses outside the Department of Economics.

Business Economics
The business economics option prepares students for careers in business, government, and other organizations. This option combines the applied economic analysis and quantitative skills necessary for decision making in business and government with an appreciation for the function areas of these institutions.

The business economics option requires 60 credit hours. Students with previous education in economics or business may waive up to 24 hours of the 60 hours required. Regardless of the number of required courses waived, at least 36 hours of graduate work must be completed within a six-year period to earn the degree. A minimum of 24 hours must be completed while enrolled in the M.A. in economics program at UM-St. Louis. More than 50 percent of the credit hours completed in the business economics option must be taken in the Department of Economics.

Required Courses
In addition to the required core courses, students must complete the following courses:
- BA 412(5900), Public Policies Toward Business
- BA 440(5400), Financial Accounting: Theory and Practice
- BA 450(6500), Financial Management
- BA 460(5611), Organizational Behavior and Administrative Processes
- BA 470(5700), Contemporary Marketing Concepts
- MS/IS 480(6800), Management Information Systems
- Econ 366(4110), Applied Econometrics
- Econ 453(5020), Economics of Contracts and Organization
- Econ 467(5130), Business and Economic Forecasting

Electives
Candidates must complete at least 9 hours of electives in 400-level economics courses. With the approval of the graduate coordinator, students may take additional graduate courses outside the Department of Economics.

Certificate in Forensic Economics
The Certificate in Forensic Economics is a program of study designed for individuals who wish to supplement previous graduate studies with training in the theory and application of forensic economics. The program is aimed at individuals who wish to prepare economic reports and offer expert economic testimony for selected areas of litigation. The entrance requirement is a master's degree in such areas as actuarial science, business administration, finance, economics, or public policy. An applicant must have had prior course work, or its equivalent, in: Intermediate Microeconomics, Intermediate Macroeconomics, and Statistics. Course work in labor economics and law and economics is recommended but not required. Individuals admitted to this certificate program will be nonmatriculating graduate students.

Requirements
The certificate requires a minimum of 18 hours of course work in forensic economics. Students must complete:
- Econ 440(5650), Law and Forensic Economics
- Econ 442(5660), Labor Economics for Forensic Economics
- Econ 444(5670), Assessment of Damages in Personal Injury and Wrongful Death
- Econ 446(5680), Statistical Research in Forensic Economic Analysis
- Econ 447(5690), Writing Reports and Papers on Forensic Economics
- Econ 449(5695), Internship in Forensic Economics

Graduate Certificate in Management Economics
A Graduate Certificate in Managerial Economics is a program of study designed for individuals who wish to supplement previous graduate studies with advanced training in economic analysis. The entrance requirement is a master's degree in such areas as business administration, finance, or public policy administration. Individuals admitted to this certificate program will be nonmatriculating graduate students.

Requirements
The certificate requires a minimum of 18 hours of course work in economics. Students must complete:
- 451(5001), Microeconomic Analysis
- 452(5002), Macroeconomic Analysis
- 465(5100), Econometric Theory and Methods
and two of the following:
- 366(4110), Applied Econometrics
- 453(5020), Economics of Contracts and Organization
- 467(5130), Business and Economic Forecasting
Career Outlook
Economics is a language that provides the individual with a concise and logical way to study a wide range of problems and issues. It provides the flexibility for adapting to our ever-changing society, and it is also useful in everyday life. Thus, the economics major is excellent preparation for launching many careers. Economics graduates with a B.A. or B.S. degree pursue careers in banking, industry, and government. They use their training in economics as a foundation for a variety of jobs in management, personnel, sales, and marketing. Others continue their study of economics in graduate schools, earning M.A. and Ph.D. degrees. An undergraduate major in economics also provides a strong background for work on an M.B.A. or law degree. Economics is also important for careers in politics, journalism, and public and private service in foreign countries. Career planning materials are available in the Economics Resource Center, 452 SSB. For additional information, call the Director of Graduate Studies at (314) 516-5560.
Courses in this section are grouped as follows: Economics, Geography, and Home Economics.

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

- 40(1000), 51(1001), 52(1002), 110(2610), 205(2800), 207(2010), 210(3900), 216(3500), 217(3501), 219(3650), 220(3200), 230(3300), 238(3310), 251(3001), 252(3002), 260(3400), 262(2410), 265(3100), 266(3600), 270(3700), 272(3750), 302(3710), 304(4140), 306(3052), 350(4150), 352(4040), 353(4030), 355(3620), 360(4550), 365(4100), 366(4110), 367(4130), 372(4610), 380(3800), 390(4990), 395(4980).

GEOGRAPHY: 101(10J1), 102(1002), 295(3900), 390, 395

Economics

40(1000) Introduction to the American Economy (3) [V, SS]

Introduction to economic analysis and problems through an examination of the development and operations of the American economy; study of its evolution, institutions, and principal problems. Econ 40(1000) does not substitute for Econ 51(1001) or 52(1002). Students who have already completed Econ 51(1001) or 52(1002) may not take Econ 40(1000) for credit.

51(1001) Principles of Microeconomics (3) [V, SS]

Prerequisite: Mathematics 30(1030) or Mathematics 40. Introduction to the determinants of household demand, production and cost, and market prices. Applies the principles of individual decision-making behavior to understanding goods, services, and resource markets.

52(1002) Principles of Macroeconomics (3) [SS]

Prerequisite: Econ 51(1001). Introduction to the determination of levels of and changes in aggregate income, output, employment, and prices. Applies economic principles of choice to the formulation and achievement of public policies that affect national employment, income distribution, and economic growth.

110(2610) The Economics of Professional Sports (3) [V, SS]

Prerequisite: Econ 40(1000) or equivalent or consent of instructor. This course will survey the economic organization of professional sports team industries and the relationship of sports teams to their employees, fans, and governments. Economic issues relating to salaries and labor disputes, monopoly practices, cartels and pricing, team location decisions, and public subsidies for professional sports teams will be analyzed.

205(2800) History of American Economic Development (3) [MI, SS]

Prerequisites: Econ 40(1000) or 51(1001) or consent of instructor. (Same as Hist 205(2800)). Uses economic concepts to explain historical developments in American economy, beginning with hunter-gatherers who crossed the Bering land bridge around 12,000 B.C. Main topics include Native American economies, European exploration and conquest, colonial economies, indentured servitude, American Revolution, U.S. Constitution, westward expansion, transportation, Industrial Revolution, state banking and free banking, slavery, Civil War, post-bellum agriculture, rise of big business and antitrust, banking panics, Federal Reserve Act, First and Second World Wars, New Deal, and growth of government in postwar economy.


Prerequisites: Economics 40 (1000) or 51(1001) or consent of instructor. This course presents a history of development of modern business firms and examines the evolution of the economic theory of the firm. Special attention paid to the role that firms play in fostering social and economic development. Objective of course is to provide students with deeper understanding of firms so that they can make better policy decisions as owners, managers, lawmakers, regulators, and voters.

210(3900) Selected Topics in Economics (3)

Prerequisites: Economics 40 (1000) or 51(1001) or consent of instructor. This course presents a history of development of modern business firms and examines the evolution of the economic theory of the firm. Special attention paid to the role that firms play in fostering social and economic development. Objective of course is to provide students with deeper understanding of firms so that they can make better policy decisions as owners, managers, lawmakers, regulators, and voters.

216(3500) Public Finance: Expenditures (3)

Prerequisite: Econ 51(1001). Analysis of public goods and externalities, models of collective choice, elements of benefit-cost analysis, the theory of bureaucracy, governments as agents in markets.

217 (3501) Political Finance: Revenues (3)

Prerequisite: Econ 51(1001). Analysis of the economic role of governments, subsidies and taxes in the federal system, criteria for tax evaluation, the nature of tax legislation, private decision making under differing tax institutions, and government borrowing.
219(3650) Law and Economics (3)
Prerequisite: Econ 51(1001). Analysis of the economic role of property rights and contracts in the private for-profit and not-for-profit sectors of the economy. Considers economic incentives to form organizations as one alternative and to form contracts as another. Considers the economic efficiency of the common law and judicial systems in use in the United States.

220(3200) Money, Banking, and Monetary Theory (3)
Prerequisites: Econ 51(1001) and 52(1002). Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory; integration of monetary phenomena with national income theory. Analysis of current policy issues.

230(3300) International Economic Analysis (3)
Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Introduction to the theories of international trade and factor movements including determinants of trade, the effects of trade on sectors and on overall economic performance, trade restrictions, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

231(3301) International Finance (3)
Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Introduction to international monetary systems; foreign exchange markets; financing of international transactions; the international position of the dollar.

238(3310) Comparative Economic Systems (3)
Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Introduction to the comparative study of economic organization, growth, and welfare in different types of national economies such as the United States, the United Kingdom, France, Germany, Sweden, Japan, the republics of the former Soviet bloc, and China.

240(3320) Economic Development (3)
Prerequisites: Econ 51(1001) and 52(1002). Survey of economic growth as applied to developed and underdeveloped countries. Analysis of development policies with emphasis on case studies. Case studies may include the United States, Western Europe, or Latin America.

251(3001) Intermediate Economic Theory: Microeconomics (3)
Prerequisites: Econ 51(1001) and 52(1002). Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

252(3002) Intermediate Economic Theory: Macroeconomics (3)
Prerequisites: Econ 51(1001), 52(1002); Econ 220(3200) is recommended. Study of national income, expenditure, and the forces determining the level of economic activity. Special emphasis on the theory of income determination and its application to public policy.

260(3400) Labor Economics (3)
Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Examines the labor market in the economy. Considers the theories of labor supply, labor demand, and market determination of wages. Other topics include noncompetitive markets, internal labor markets, the theory of human capital, compensating wage differentials, labor market discrimination, unions and collective bargaining, unemployment, and poverty and the distribution of income.

262(2410) Work, Families, and Public Policy (3)
Prerequisite: Econ 40(1000) or 51(1001). Topics include: the family as an economic (production) unit; gender differences in labor force participation, occupations and earnings; the effectiveness of human capital theory and labor market discrimination in explaining the male-female wage gap; remedies for reducing the wage gap; family structure and economic well-being; and alternative policies to alleviate poverty.

265(3100) Economic Statistics (3)
Prerequisites: Math 30(1030), Econ 51(1001), and Econ 52(1002). Introduction to economic data sources, data interpretation and statistical inference as used in economic analysis. Emphasizes the testing of economic hypotheses and the development and estimation of economic models. Introduces the use of statistical software used in economics.

266(3600) Industrial Organization (3)
Prerequisite: Econ 51(1001). A theoretical and empirical analysis of the actions of firms under alternative forms of market organization. The role of economics of scale, product differentiation, mergers, and advertising in affecting industry structure, and the impact of the resulting industry structure on pricing, output, promotion, and technology decisions of firms.

270(3700) Urban and Regional Economics (3)
Prerequisites: Econ 51(1001) and 52(1002). A survey of factors affecting the location of economic activity, industrial diversity, determinants of urban growth, the role of urban public economy, and the management of the urban environment.
272(3750) The Political Economy of Health Care (3)  
Prerequisite: Econ 40(1000) or Econ 51(1001). The course provides an economic perspective on the working of the health care market, focusing on the effects of government regulation, tax policy, and entitlement programs. There will be a detailed review of existing U.S. health care financing programs (e.g., Medicare, Medicaid), as well as financing systems of other developed countries. Health care policy will be evaluated according to its impact on quality, cost, and access to medical care and, ultimately, the overall health status of our population.

301(3150) Quantitative Methods and Modeling in Economics, Business and the Social Sciences (3)  
Prerequisites: Math 30((1030); Econ 51 (1001) or junior standing. This course focuses on the application of mathematical techniques to model building. The course reviews various mathematical techniques and shows students how they can be used for describing various social and business phenomena. Specific examples from the business, economics, criminology and other social sciences will be employed to reinforce the mathematical tools and concepts discussed. Students who have previously completed Econ 350(4150) or Math 80(1800) or Math 100(1100) may not take this course for credit.

302(3710) Planning Processes in the Urban Economy (3)  
Prerequisites: Econ 51(1001) and junior standing. Economic techniques and criteria used in planning and evaluating programs and projects for the urban economy.

305(5051) Macroeconomics for the School Curriculum (1-3)  
Prerequisite: Junior standing. Analysis of forces affecting the national economy, with emphasis on income determination, employment, money and banking, and international trade and finance. Special reference to topics included in elementary and secondary school social science curricula. Econ 305 may not be used by economics majors to meet degree requirements.

306(3052) Microeconomics for the School Curriculum (1-3)  
Prerequisite: Junior standing. Analysis of market forces, with emphasis on business firms, households, and productive-factor markets, price determination, and resource allocation. Special reference to topics included in elementary and secondary school social science curricula. Econ 306 may not be used by economics majors to meet degree requirements.

310(5055) Economic Issues for the School Curriculum (1-3)  
Prerequisites: Junior standing and consent of instructor. An analysis of selected economic issues appropriate to instruction in secondary and elementary schools. May be taken more than once for credit, provided the topic of the course is different each time. May not normally be used by economics majors to meet degree requirements.

317(3510) Public Finance: State and Local (3)  
Prerequisites: Econ 51(1001) and 52(1002) and junior standing. A study of expenditure, taxation, and financial administration of state and local governments, with emphasis on problems of current interest. Special attention given to research methods, as well as financial relations between various levels of government.

320(4210) Financial Markets and Institutions (3)  
Prerequisite: Economics 220(3200). Demand, supply, and flow of funds in the macrofinancial system, including money, capital, futures, and foreign exchange markets. Examines types and historical development of domestic and international financial intermediaries operating within these markets, decision-making within individual intermediaries, their regulatory environment, and how their portfolio decisions affect flows in the financial system.

350(4150) Mathematical Economics (3)  
Prerequisites: Math 80(1800) or 100(1100), Econ 251(3001), or Business 408(5000) or 410(5001). This course uses calculus and other mathematical tools to analyze economic phenomena. In addition to exploring techniques used to solve unconstrained and constrained optimization problems, the course also examines how matrix algebra is used in economic modeling. This course allows students to mathematically analyze economic models which receive graphical treatment in lower level courses.

352(4040) Analysis of Business Cycles (3)  
Prerequisites: Econ 220(3200); 252(3002); 265(3100). This course focuses on the empirical regularities in macroeconomics commonly referred to as the business cycle. It examines the variability and co-movements of aggregate economic variables and explores alternative theoretical explanations of these phenomena.

353(4030) Managerial Economics (3)  
Prerequisite: Econ 251(3001) or equivalent; Math 80(1800) or 100(1100) recommended. Application of microeconomic theory to decision-making process in the business firm. Topics include pricing and profit strategy, cost analysis, decision making under uncertainty, technology, innovation, and productivity growth, and the structure and organization of firms. Problem-solving and case-study approach used.

355(3620) Business and Government (3)  
Prerequisite: Econ 51(1001). Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered.
357(3630) Government Regulation and Antitrust Policy (3)
Prerequisite: Econ 51(1001). Evaluation of the use of antitrust policy and government regulatory agencies to improve the performance of industrial markets. Course will include discussion of antitrust cases and analysis of the economic impact of deregulatory initiatives in the airline, trucking, railroad, and telecommunications industries.

360(4550) Natural Resource Economics (3)
Prerequisite: Econ 51(1001), or consent of instructor. The relationship between human activity and the world's natural resources requires choices. This course uses an economics perspective to study these choices. This perspective uses the view of the environment as an asset for its starting point. Issues concerning the optimal and sustainable use of natural resources are examined in this context. Special emphasis is given to potential policy responses to environmental problems.

365(4100) Introduction to Econometrics (3)
(Same as Public Policy Administration 365.) Prerequisites: Econ 51(1001) and 52(1002); Econ 265(3100) Math 80(1800) or Math 100(1100); or consent of instructor. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

366(4110) Applied Econometrics (3)
Prerequisite: Econ 365(4100) or equivalent. Concepts, techniques, and advanced applications of econometrics. Emphasis on developing a critical understanding of the appropriateness and limitations of a variety of state-of-the-art techniques used to model economic or political processes. Topics will include joint tests of hypotheses, estimation of lagged effects, models of qualitative choice, simultaneous systems, and outlier diagnostics.

367(4130) Econometric and Time Series Forecasting (3)
Prerequisite: Econ 365(4100) or equivalent. Alternative forecasting methodologies for economic time series will be analyzed and discussed. The focus of the course will be: (1) the development of time-series (ARIMA) models and their application to forecasting; (2) the use of standard econometric models for forecasting; and (3) evaluation and comparison of these methods and the conditions under which each is the appropriate methodology.

372(4610) Economics of Nonmarket Decision Making (3)
Prerequisites: Economics 51(1001) or consent of instructor. Application of economic theory and methodology to study of nonmarket decision making. Introduction to economic models of the judiciary, bureaucracies, interest groups, regulatory agencies, legislative and executive branches of government, and private nonprofit charitable organizations. Impact of voting rules and agenda manipulation on collective outcomes will be explored.

380(3800) History of Economic Thought (3)
Prerequisites: Econ 51(1001) and 52(1002). The evolution of economic thought from the ancients through post-Keynesian theory.

390(4990) Internship in Applied Economics (2-6)
Prerequisites: Junior standing, Econ 251(3001), and consent of instructor. Independent study involving work with appropriate private firm or public agency. Maximum of 6 hours may be earned, only 3 of which may be applied to economics major.

395(4980) Special Readings (1-6)
Prerequisites: Consent of instructor; grade point of 3.0 or higher in economics. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor. Maximum credit limited to six hours.

403(5140) Seminar in Economic Research (3)
Prerequisites: Econ 220(3200); Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002). Research methods applied to economics. Develops efficiency and skill in conducting research and communicating the results with written reports and oral presentations. This course must be taken within the first year of study after completion of the prerequisites.

408(5010) Microeconomics for Policy Analysis (3)
Prerequisites: Graduate Student or consent of instructor. Topics include: the determinants of real and nominal interest rates, the term structure of interest rates, the impact of discretionary monetary policy on the domestic economy and foreign exchange markets, and the domestic economy and foreign exchange markets, and the relationship between monetary policy and federal government deficits.
421(6500) Public Sector Microeconomics (3)
Prerequisite: Econ 25(3001) or BA 410(5001), or PPA 408(6080). (Same as PPA 421(6210).) Application of tools of intermediate microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g., externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

422(6210) Financial Markets (3)
Prerequisites: Econ 220(3200); Econ 25(3001) or BA 410(5001); Econ 252(3002). Demand, supply, and flow of funds in allocating credit and distributing risk in the macrofinancial system. The saving investment process, the rationale for financial markets, and the role of financial intermediaries are studied within the framework of the flow of funds accounts. Special attention is given to the operation of money, capital, futures, and foreign financial markets and the impact of public policy on the structure and performance of financial markets.

430(6300) International Trade (3)
Prerequisite: Econ 25(3001) or BA 410(5001). Survey of the modern theories of international trade and their applications including factor endowments and other determinants of trade, trade restrictions, foreign investment, trade and economic development, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

431(6301) International Monetary Analysis (3)
Prerequisite: Econ 220(3200); Econ 25(3002) or BA 411(5002). Application of macroeconomic theory to the international monetary system. Topics include the balance of payments, exchange rates, international linkages, world inflation, capital flows, and the gold standard.

440(5650) Law and Forensic Economics (3)
Prerequisites: Econ 25(3001), 252(3002), 265(3100), or equivalent, or consent of instructor. Reviews issues of law that dictate conditions under which forensic economic analysis is admissible. Topics include introduction to common law, federal and state court systems, statutory basis for wrongful death damages, "make whole" principle, efficient deterrence and efficient compensation, differences by class of litigation, determination of relevant law, legal implications of "preferred jury instructions," standards for admissibility of economic expertise.

442(5660) Labor Economics for Forensic Economists (3)
Prerequisites: Econ 25(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Focuses on areas of labor economics of special importance in forensic economic analysis. Topics include human capital as a recoverable asset, age-earnings cycles, variations in age-earnings cycles, earning capacity versus expected earnings, theories of family and family bargaining, theory of discrimination and tests for presence of discrimination.

444(5670) Assessment of Damages in Personal Injury and Wrongful Death (3)
Prerequisites: Econ 25(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Reviews methodologies for standard damage categories in forensic economic analysis. Topics include methods for establishing base earnings, use of age-earnings profile data, discount rates, net discount rates and stability of relationship between wage growth and discount rates, analysis of fringe benefit packages, concepts and measurement of nonmarket family services, hedonic damage controversy, analysis of personal consumption/personal maintenance for wrongful death cases.

446(5680) Statistical Research in Forensic Economic Analysis (3) Prerequisites: Econ 25(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Review of relevant statistical techniques, data sources, and reliability factors. Since factual information about individual tort victims is often limited in forensic economic assessment, this course deals extensively with issues of inference that must be made with little data. Also addresses issues of scientific admissibility and Internet as a potential source of relevant data.

447(5690) Writing Reports and Papers in Forensic Economics (3)
Prerequisites: Econ 25(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. A professional writing course in which students are expected to prepare both a report suitable for litigation and a paper written in publication format for a professional journal or law review. Some student papers will be publishable in specialized journals, legal publications, and law reviews.

449(5695) Internship in Forensic Economics (3)
Prerequisites: Econ 25(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Internship with a consulting firm. Internship activities and products will be monitored largely through Internet interaction between student and faculty.

451(5001) Microeconomic Analysis (3)
Prerequisites: Econ 25(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150). Survey of microeconomic comparative statistics. Detailed examination of demand and supply, product, and factor markets. Partial equilibrium in competitive, imperfectly competitive, and monopolistic markets.
452(5002) Macroeconomic Analysis (3)
Prerequisites: Econ 220(3200); Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150). Aggregate economic theory, including analysis of the determinants of income, output, employment, and prices. Employment and price-level effects of consumer and investment demand, the money supply and interest rates, and government policies.

453(5020) Economics of Contracts and Organization (3)
Prerequisites: Econ 251(3001) or BA 410(5001) (or 408(5000)). Considers issues in the coordination of human resources in the production of goods and services, either through individual contracting or through various forms of organizations. Organization is explained as a nexus of contractual relationships within a cooperative production unit, whether that unit is governmental, in private commerce, or has a nonprofit orientation or some mix of the three basic modes. Emphasizes the roles of transactions costs, bounded rationality, monitoring individual performance in team production, opportunism, basic principles of insurance, and other incentive compatibility issues.

460(6600) Structure and Performance of United States Industry (3)
Prerequisites: Econ 251(3001) or BA 410(5001); Econ 350(4150). An analysis of the functioning of business firms under alternative market arrangements. Topics include: the theory and measurement of monopoly power and the role of economies of scale, product differentiation, and entry conditions in affecting this power; the impact of market power on the price-setting behavior, advertising and promotional strategies, and technological innovation of firms; the role of government policy in promoting or preventing competition among firms.

463(6630) Economics of Telecommunications (3)
Prerequisites: Econ 25(3001), BA 408(5000) or BA 410(5001) and Econ 350(4150). Application of economic theory and techniques to the telecommunications industry. Topics include demand theory for telephone access and use, consumer surplus models for subscription choice, nonlinear pricing strategies including pure and mixed bundling and multi-part tariffs, the incentives of the firm under various regulatory regimes, a comparison of rate-of-return regulation and incentive (price cap) regulation, and the impact of carrier-of-last-resort responsibilities.

465(5100) Econometric Theory and Methods (3)
Prerequisites: Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150); Econ 365(4100) or MS/IS 481(5300); Math 245(2450) or equivalent. A rigorous review of statistical models and methods relevant to the estimation and testing of economic relationships. Emphasis on the theoretical underpinnings of techniques commonly used for single and multiple equation estimation and hypothesis testing. Topics include ordinary and generalized least squares, robust regression, and simultaneous equations estimation.

467(5130) Business and Economic Forecasting (3)
Prerequisites: Econ 251(3001) or BA 410(5001); Econ 252 (3002) or BA 411(5002); Econ 350(4150); Econ 365(4100) or MS/IS 481(5300). This course develops the alternative techniques which are used to forecast economic time series. Each forecasting technique will be evaluated in terms of its theoretical soundness and predictive track record. Students will also learn to use these techniques to differentiate among competing economic models.

470(6700) The Political Economy of Metropolitan Areas (3)
Prerequisites: Regular graduate student status and consent of graduate student coordinator. This course deals with both the public and private sector issues that affect our nation’s metropolitan areas. It focuses on policy implications for economic development, government finance (especially at the state and local level) and intergovernmental relations. It also covers the economics of specific topical areas such as local education, transportation, financing adequate urban services, governmental structure and financial organization, infrastructure needs.

471(6750) The Political Economy of Health Care (3)
Prerequisites: Econ 251(3001) or BA 408(5000) or consent of instructor. This course investigates the impact of government policy on health care provision and financing, focusing on the effect of entitlement programs, tax policy, and government regulation. Applying standard economics techniques, students will analyze incentives facing the decision makers in the health care system and ways in which they are altered by government policy. Attention will also be given to rationales for government intervention and roles of interest groups in the formulation of U.S. health care policy. The course will provide a detailed review of specific federal and state government financing programs, primarily focusing on Medicare and Medicaid, and will include discussion of the economic aspects of current health finance reform proposals.

472(6760) Health Economics (3)
Prerequisites: Econ 251(3001) or BA 410(5001). This course applies microeconomic theory and statistical techniques to understand decision making in health care markets. The effects of government policies on the health care choices of consumers and providers are identified and quantified; attention is given to federal and state entitlement programs, regulations, tax policies and antitrust enforcement. The role of insurance as a risk-sharing device is explored, along with its implications for pricing and health care utilization.
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480(6400) Labor Economics: Theory and Public Policy (3)
Prerequisite: Econ 251(3001) or BA 410(5001). This course examines labor supply, labor demand, and market determination of wages. Topics covered include the effect of technological change on employment, trends in labor force participation, the impact of government taxes and transfers on labor supply, poverty, and its economic consequences, the human capital model and its implications for investment in education and on-the-job training, and theories of economic discrimination and empirical measurement issues. Throughout the course, current public policy debates are examined using the theoretical models developed.

490(6900) Advanced Topics in Economic Analysis (3)
Prerequisite: Consent of the instructor. Study of a specific economics topic, which may vary from semester to semester. May be taken more than once if the topic is different.

495(6980) Directed Readings (1-6)
Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences.

Geography

101(1001) Introduction to Geography (3) [MI, SS]
Prerequisite: Math 02 or equivalent. An introduction to geography as a social science. The identification and explanation of order in the human landscape. A survey of the social, political, economic, and psychological factors which influence geographic patterns.

102(1002) World Regions (3)
Prerequisite: Geography 101(1001) recommended. Survey of the major regions of the world. Designed to give the student an awareness of the character of each of these major regions through the interrelationships of the various attributes of place.

295(3900) Special Readings in Geography (3)
Prerequisite: Consent of instructor. This course will provide a more in-depth analysis of the various factors which influence geographic patterns. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

395 Advanced Topics in Geography (3)
Prerequisites: Junior standing or consent of instructor. Analysis of selected geography topics. The topics selected will vary from semester to semester. This course may be taken for credit more than once as long as the topics discussed in each semester are different.

Home Economics

130(1110) Nutrition in Health (3)
A study of dietary nutrients essential for health, proper selection of foods to provide them, and current issues affecting them.
Department of English

Faculty

Barbara A. Kachur, Associate Professor*
Ph.D., The Ohio State University
Chairperson

David Carkeet, Professor*
Ph.D., Indiana University
Joseph Carroll, Professor*
Ph.D., University of California-Berkeley
Sylvia J. Cook, Professor*
Ph.D., University of Michigan
Charles Dougherty, Professor Emeritus
Ph.D., University of Toronto
William C. Hamlin, Professor Emeritus
Ph.D., University of Missouri-Columbia
Howard Schwartz, Professor*
M.A., Washington University
James E. Tierney, Professor Emeritus
Ph.D., New York University
Peter Wolfe, Professor, Curators' Professor*
Ph.D., University of Wisconsin
Jane Zeni, Professor*
Ed.D., University of Missouri-St. Louis
Deborah Aldrich-Watson, Associate Professor*, Ph.D.,
Columbia University
Richard M. Cook, Associate Professor*
Ph.D., University of Michigan
Sally Barr Ebest, Associate Professor*
Ph.D., Indiana University
Kathy Gentile, Associate Professor*
Ph.D., University of Oregon
Francis Grady, Associate Professor*
Ph.D., University of California-Berkeley
Bruce L. Liles, Associate Professor Emeritus
Ph.D., Stanford University
John T. Onuska, Jr., Associate Professor Emeritus
Ph.D., Harvard University
Steven Schreiner, Associate Professor*
Ph.D., Wayne State University
Eamonn Wall, Jefferson Smurfit Professor of Irish
Studies and Associate Professor
Ph.D., City University of New York
Jane Williamson, Associate Professor Emerita
Ph.D., Bryn Mawr College
Ruth Ellen Kocher, Assistant Professor
Ph.D., Arizona State University
Tivoli Majors, Assistant Professor*
Ph.D., University of Texas at Austin
Nanora Sweet, Assistant Professor*
Ph.D., University of Michigan
Mary Troy, Assistant Professor*
M.F.A., University of Arkansas
Dennis Bohnenkamp, Senior Lecturer
M.A., University of Missouri-Columbia
Ellie Chapman, Senior Lecturer Emerita
M.A., Murray State University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The English
department offers or participates in offering the B.A. in
English, the B.A. in English with certification for
secondary teaching, and the B.S. in secondary education
with an emphasis area in English. The department also
offers a minor in English. Additionally, students with any
major in the university may earn a Certificate in Writing so
that they may demonstrate evidence of training in creative,
journalistic, or technical writing.

The department has a graduate program leading to the
master of arts degree. Students may pursue a literature
track where they acquire a broad coverage in British and
American writers or a writing track where half of the
course work deals with composition and writing theory.
The department also offers the master of fine arts in
creative writing, in which half of the courses are writing
workshops and independent writing projects.

Departmental Honors Candidates for departmental
honors in English must achieve a 3.2 average in English at
graduation and complete an undergraduate or graduate
seminar in English, the final paper for which must be
acceptable to the instructor as an honors thesis.
Undergraduate Studies

General Education Requirements
English courses may be used to meet the university's humanities requirement, except the following:

10(1100), Freshman Composition
11(1110), Freshman Composition for International Students
112(2120), Topics in Writing
122(2810), Traditional Grammar
209(3090), Practical Criticism: Writing About Literature
210(3100), Advanced Expository Writing
211(3110), Advanced Expository Writing for International Students
212(3120), Business Writing
213(3130), Technical Writing
214(3140), News Writing
215(3150), Feature Writing
216(3180), Writing in the Sciences
218(3180), Reporting
262(3600), The Curriculum and Methods of Teaching English
300(4000), Writing in the Professions
305(4880), Writing for Teachers
313(4870), Advanced Business and Technical Writing
319(4860), Editing
320(4890), Independent Writing Project

The college's foreign language requirement may be met in any language.

Satisfactory/Unsatisfactory Option
English majors may take any English course on a satisfactory/unsatisfactory basis except the following:

10(1100), Freshman Composition
11(1110), Freshman Composition for International Students
209(3090), Practical Criticism: Writing About Literature
210(3100), Advanced Expository Writing
211(3110), Advanced Expository Writing for International Students
212(3120), Business Writing
213(3130), Technical Writing
214(3140), News Writing
215(3150), Feature Writing
216(3180), Writing in the Sciences
218(3180), Reporting
262(3600), The Curriculum and Methods of Teaching English
300(4000), Writing in the Professions
305(4880), Writing for Teachers
313(4870), Advanced Business Writing
319(4860), Editing
320(4890), Independent Writing Project

Degree Requirements

Bachelor of Arts in English
English majors must complete at least 36, but no more than 45, hours in English exclusive of English 10(1100), Freshman Composition; English 11(1110), Freshman Composition for International Students; and English 209(3090), Practical Criticism: Writing About Literature.

1) Students majoring in English must take:
122(2810), Traditional Grammar
131(2310), English Literature I
132(2320), English Literature II
171(2710), American Literature I
172(2720), American Literature II

2) English 209(3090), Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 300(4000)-level courses in English.)

3) Students must also complete one course from five of the following 10 areas:

Area 1 Medieval English
322(4250), Old English
324(4260), Chaucer
325(4270), Medieval English

Area 2 Shakespeare
337(4370), Shakespeare: Tragedies and Romances
338(4380), Shakespeare: Comedies and Histories

Area 3 The Renaissance
332(4320), Elizabethan Poetry and Prose
339(4330), Tudor and Stuart Drama
342(4340), Early Seventeenth-Century Poetry and Prose
345(4350), Milton

Area 4 Restoration and Eighteenth-Century English
346(4410), Restoration and Eighteenth-Century Drama
352(4420), Age of Dryden and Pope
353(4440), Age of Johnson
364(4450), The Eighteenth-Century English Novel

Area 5 Nineteenth-Century English
365(4540), The Nineteenth-Century English Novel
368(4510), Early Romantic Poetry and Prose
369(4520), Later Romantic Poetry and Prose
371(4530), Prose and Poetry of the Victorian Period
372(4580), Literature of the Late Nineteenth and Early Twentieth Centuries

Area 6 Nineteenth-Century American
373(4610), Selected Major American Writers I
374(4620), Selected Major American Writers II
375(4640), American Fiction to World War I
Area 7 Twentieth-Century English/American
376(4650), Modern American Fiction
383(4750), Modern British Fiction
384(4770), Modern Poetry
385(4760), Modern Drama
386(4740), Poetry Since World War II

Area 8 Literary Criticism
321(4000), History of Literary Criticism
327(4030), Contemporary Critical Theory
329(4050), Forms and Modes of Poetry
387(4070), The Two Cultures: Literature and Sciences
388(4080), Narrative, Cognition, and Emotion

Area 9 Special Topics
306(4060), Adolescent Literature
323(4920), Continental Fiction
380(4930), Studies in Women and Literature
390(4900), Seminar
391(4940), Special Topics in Jewish Literature
395(4950), Special Topics in Literature

Area 10 Linguistics
307(4800), Linguistics
308(4810), English Grammar
309(4820), History of the English Language

Work in 100(2000)-level courses provides background in literary history and forms, as well as the means for discussing literary issues, on paper and orally. Thus, the department requires English 131(2310) or consent of the instructor as a prerequisite for all courses in Areas 1-4 and English 132(2320) or consent of the instructor as a prerequisite for all courses in Areas 5 and 7, except American literature courses. English 171(2710) or consent of the instructor is a prerequisite for all courses in Area 6, and both English 171(2710) and English 172(2720) or consent of the instructor are prerequisites for English 376(4650). All survey courses (English 131(2310), 132(2320), 171(2710), and 172(2720) must be taken before the major has completed 90 hours toward a degree.

A maximum of 6 satisfactory/unsatisfactory hours may be taken in the department. Majors must complete at least 18 graded (i.e., not satisfactory/unsatisfactory) hours in English courses at the 200(3000) level or above with a grade point of 2.0 or better in these courses.

Students majoring in English must complete a minimum of 12 graded hours in English courses at the 300(4000) level or above in residence with a grade point average of 2.0 or better in these courses or students must receive special consent of the department.

Students should consult with faculty/advisers to determine which upper-level courses best satisfy their major needs and interests.

College of Arts & Sciences
Department of English

Bachelor of Arts in English with Certification for Secondary Education
All candidates for certification to teach English must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this Bulletin for information.

In addition to the requirements for the B.A. in English, students must meet the following requirements for secondary certification:

1) Two courses in American literature. This requirement may be met by courses counted for the major.
   a American literature must include a unit or course in the literature of ethnic groups.
   b American literature must include a unit or course in literature for adolescents.

2) Twelve hours in composition and rhetoric:
   Eng 10(1100), Freshman Composition, may be counted.
   Eng 209(3090), Practical Criticism: Writing About Literature, is required.
   Eng 305(4880)/Sec Ed 305(4880), Writing For Teachers, is required.
   Recommended courses include creative writing, journalism, and business writing.

3) English language requirements
   a. Eng 122(2810), Traditional Grammar
      Students with sufficient background may gain exemption from the English 122(2810) requirement by passing the English-Education Test of Basic Grammar. This test may be taken only twice. Certification candidates must pass English 122(2810) or the Test of Basic Grammar before applying for student teaching.
   b. Eng 308(4810), English Grammar
   c. Eng 307(4800), Linguistics, or Eng 309(4820), History of the English Language

4) Eng 262(3600), The Curriculum and Methods of Teaching English. Prerequisite: Completion of Level II courses and a near major in English. Must be taken concurrently with professional internship, and before student teaching.

5) Eng 270(3700), English Student Teaching Seminar, must be taken concurrently with Sec. Ed. 290(3290), Secondary School Student Teaching.

6) Candidates for certification in Missouri must have a 2.5 cumulative GPA, computed from the beginning of freshman year and including all colleges attended. They also need a minimum GPA of 2.5 in their English courses. All grades in professional education and in required English courses must be C- or better.
Bachelor of Science in Secondary Education with an Emphasis Area in English
All candidates for certification to teach English must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this Bulletin for information.

The required courses in English and professional education are the same as those for the B.A. with certification for secondary education. However, students fulfill the general education requirements of the College of Education rather than those of the College of Arts and Sciences. For example, students seeking the B.S. in Education are not required to study a foreign language.

Certification to Teach Secondary Speech and Drama
All candidates for certification to teach Speech and Drama must enroll in a program in the College of Education involving Level I, level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this Bulletin for information.

In addition, undergraduates who wish to be certified to teach Speech and Drama must meet the requirements for a major in Communication as well as requirements set by the Theatre faculty.

Minor in English
A student may minor in English by taking at least 18 hours of English courses exclusive of Basic Writing, English 10(1100), Freshman Composition, and English 11(1110), Freshman Composition for International Students. English 209(3090) is required, and 12 of the 18 hours must be in literature courses, 9 of which must be in courses at the 200 or 300 level. Every student taking a minor in English must consult with an adviser in the English department to ensure a coherent program of studies. The GPA in courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis. No more than 3 hours taken on a satisfactory/unsatisfactory basis may be counted toward the 18-hour minimum.

Certificate Program in Writing
A student may receive the Certificate in Writing by completing a total of 18 hours in writing courses chosen from the following:

Comm 212(2212), Broadcast Writing and Reporting
Comm 217(2217), Script Writing for Business and Industry
English 103(2030), Poetry Writing
English 104(2040), Short Story Writing
English 105(2050), Play Writing
English 106(2060), Introduction to the Writing of Poetry and Fiction
English 108(2080), or Comm 108(1108) Advertising Copywriting
English 112(2120), Topics in Writing
English 203, Intermediate Poetry Writing

English 204, Intermediate Fiction Writing
English 209(3090), Practical Criticism: Writing About Literature
English 210(3100), Advanced Expository Writing
English 211(3110), Advanced Expository Writing for International Students
English 212(3120), Business Writing
English 213(3130), Technical Writing
English 214(3140) or Comm 214(3214), News Writing
English 215(3150), Feature Writing
English 216(3160), Writing in the Sciences
English 218(3180), Reporting
English 228(3280) or Comm 228(2228), Writing for Public Relations
English 303(4130), Advanced Poetry Writing
English 304(4140), Advanced Fiction Writing
English 305(4880), Writing for Teachers
English 313(4870), Advanced Business and Technical Writing
English 317(4850), Topics in Teaching Writing
English 319(4860), Editing
English 320(4890), Independent Writing Project (This course is required. It is to be taken as the last course a student will take in the program, and it is to be used to generate an extensive final project or internship.)

In addition, students take three electives for a total of 18 hours chosen from the following:

Business Administration
103(1800), Computers and Computer Information
205(3100), Contemporary Business Communication
Communication
65(1065), Introduction to Information Technology
Computer Science
125(1250), Introduction to Computer Science (Prerequisite: Math 30(1030), College Algebra)

English
212(3120), Business Writing
214(3140), News Writing
215(3150), Feature Writing
216(3160), Writing in the Sciences
228(3280), Public Relations Writing
313(4870), Advanced Business and Technical Writing (if 320(4890) is taken as requirement)
320(4890), Independent Writing Project (if 313(4870) is taken as requirement)
Courses taken to fulfill requirements for the Writing Certificate may not be taken on satisfactory/unsatisfactory basis.

Graduate Studies

Admission Requirements
A candidate should have a bachelor's degree, with at least 18 hours in English courses. Normally only students with a grade point average of at least 3.0 in undergraduate English courses and with an overall undergraduate average of 2.75 will be considered.

The graduate coordinator of the English Department with the advice of the graduate committee will use the undergraduate record and the scores of the GRE general test as the basis for a decision. We welcome letters of recommendation from the applicant's former English instructors, but they are not required. Applications to the MA in English are considered at all times. However, because spaces in graduate courses are limited, it is strongly advised that prospective students submit their applications well before the semester begins in order to gain admission into their appropriate classes.

Teaching Assistantships
A number of teaching assistantships are available for qualified applicants. In addition to the undergraduate record and the scores on the GRE general test, applications should include two letters of recommendation from former English instructors. Applications should be submitted to the graduate coordinator of the English department no later than March 15 preceding the academic year for which the appointment is desired.

Degree Requirements

Master of Arts in English
In addition to the Graduate School requirements, students must complete at least 36 hours, 27 hours of which must be in 400(5000)-level courses. Nine hours may be taken in 300(4000)-level courses approved by the department and Graduate School.

At the outset of the program, students in both the literature and writing theory tracks must take English 400(5000), Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 400(5000).

Students who choose a literature track must also take at least one course in each of the following six areas:

Area 1, British literature before 1660
Area 2, British literature between 1660 and 1900
Area 3, Twentieth-century literature (British, American, post-colonial, or in translation)
Area 4, American literature
Area 5, Theories of writing, criticism, language, and/or culture
Area 6, Literature in translation, study of a particular literary genre, or a course in another relevant discipline.

Students who choose the composition track must take 18 hours in literature courses (including Eng 400(5000) and 18 hours in composition courses (including Eng 485(5840). The literature courses should provide broad coverage, rather than a narrow focus on a particular genre or historical period. If students choose the thesis option (6 hours) they will take 15 hours in literature and 15 hours in composition.

Thesis Option
Students in literature or writing theory may elect the thesis option, which requires a total of 6 hours of thesis credit. The thesis should demonstrate original thought and substantial research and may be a critical study of literary works, a theoretical exploration of issues related to literature or writing, or a descriptive assessment of fieldwork related to writing and pedagogy. The thesis must be approved and assigned a grade by a thesis committee. The student will select a major professor who, after consulting with the chair and the graduate coordinator, will select two other members of the committee.

Further information may be found in The Master of Arts in English, available from the English department.

Master of Fine Arts in Creative Writing
The application process is identical to that for the master of arts degree, with these exceptions: there is one annual deadline for all applications, Feb. 15; a writing sample is required (15-20 poems or 20-40 pages of fiction); the GRE test is required only if the applicant seeks financial aid or a teaching assistantship.

In addition to the Graduate School requirements, students must complete at least 39 hours, 30 of which must be in 400(5000)-level courses. Nine hours may be taken in 300(4000)-level courses approved by the department and Graduate School. Students will specialize in one genre, poetry or fiction. They must complete the following coursework: (a) 18-21 hours in creative writing courses: 15 hours of workshops (at least one course outside the genre), and 3-6 hours of English 494(6010); (b) 15 hours of courses in literature, language, writing theory or literary journal editing offered by the department; (c) 3-6 hours of electives: another workshop or literature/language/writing theory/literary journal editing course or a relevant offering in another discipline. Students may not take a 300(4000)-level writing course in their genre for graduate credit. At least two of the writing workshops and English 494(6010) must be taken at UM-St. Louis. Complete information may be found in The Master of Fine Arts in Creative Writing, available from the English department.
Graduate Certificate in the Teaching of Writing, Gateway Writing Project.

Jointly housed in the Division of Teaching and Learning and the Department of English, this Graduate Certificate prepares teachers at all levels (K-12, college, adult) to improve their students' performance in writing. The program also emphasizes using writing as a means to promote learning in all content areas. All courses provide opportunities for teachers to write, revise, share feedback, and reflect on their own writing development. Based on the National Writing Project's core belief that teachers of writing must themselves be writers, the Graduate Certificate in the Teaching of Writing brings together sound pedagogy, composition theory, and writing practice.

The Certificate is an 18-hour program through the Gateway Writing Project (GWP); it may also be coordinated with other graduate programs. Certificate courses may be applicable to the M.A. in English with emphasis in composition or to various M.Ed. programs. The GWP Certificate is especially appropriate for post-master's candidates who wish to pursue a specialization in teaching writing. The Graduate Certificate in the Teaching of Writing requires a 12 semester-hour core of courses developed by the Gateway Writing Project: The GWP invitational institute (6 hrs.), a designated "topics" course (3 hrs.), and an exit course (3 hrs.). The Certificate requires a minimum of 12 semester hours at the 400(5000) level or above. Electives (6 hrs.) may be chosen from approved offerings in English or Education.

Admission:

Applicants must be admitted to Graduate School and be selected by the faculty admissions committee for the Gateway Writing Project's Certificate in the Teaching of Writing. The committee will review candidates on the basis of an interview, an application essay, and supporting documentation. Criteria include experience teaching writing at any level and academic record, especially in writing and the teaching of writing.

Prerequisites:

- Eng/SecEd305(4880), "Writing for Teachers" or an equivalent course in teaching writing
- Coursework or competency in basic computer application.

Required Core Courses (12 semester hours)

- Eng317(4850)/TchEd 317(5850): Topics in the Teaching of Writing (designated topics, 3 sem. hrs.)
- Eng 490(5880)/SecEd 436(6880), future TchEd(6880): Gateway Writing Project (Invitational Institute, 6 sem. hrs.)
- TchEd. 446(6890): Seminar in Professional Writing for Teachers (exit course, 3 sem. hrs)

Electives (6 sem. hrs.)

Electives may be chosen from other Gateway Writing Project offerings OR from courses offered by the appropriate academic department with advisor's approval. These electives must include at least one more 400(5000) level course.

Suggested electives applicable to an MA in English with writing emphasis:

- Eng. 485(5840): Theories of Writing
- Eng. 487(5860): Writing/Reading Theory
- Eng. 488(5870): Composition Research
- Eng. 489(5890): Teaching College Writing
- Eng. 410(5800): Modern Linguistics

Suggested electives applicable to an M.Ed. in Elementary or Secondary Education

- El. Ed. 387(4387): Lang. & Literacy Needs of Diverse Children
- El. Ed. 430(6430): Problems in Teaching Language Arts
- Sec. Ed. 430(6430): Problems in Teaching English in Sec. School
- El. Ed. 432(6432): Research in Language Arts
- El. Ed. 482(6482): Problems & Research in Elementary Reading
- Ed. REM 441(6714): Action Research

Courses in adult and higher education may also be appropriate. For complete information, see The Gateway Writing Project's Graduate Certificate in Teaching Writing, available from the English Department, from the Division of Teaching and Learning, and from the GWP Director via Continuing Education & Outreach.

Career Outlook

In addition to traditional employment as teachers at the primary, secondary, and community-college levels, recent UM-St. Louis graduates in English are working in journalism, editing, advertising, public relations, and other fields that place a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.
Course Descriptions
Courses in this section are grouped as follows: Composition; Language; Literature; and Special Offerings.

English 10(1100) Composition, or its equivalent, is a general prerequisite for all English courses numbered 131(2310) and above. This, and other specific prerequisites, may be waived by consent of the department. English 210(3100) Advanced Expository Writing, its equivalent or consent of the instructor is a general prerequisite for all literature courses numbered 300(3000) and above for non-English majors.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin:

COMPOSITION:
- 103(2030), 104(2040), 105(2050), 106(2060), 203, 204, 302(4020), 303(4130), 304(4140)
- LANGUAGE:
  - 307(4800), 308(4810), 309(4820)
- LITERATURE:
  - 12(1120), 13(1130), 14(1140), 15(1150), 16(1160), 17(1170), 20(1200), 70(1700), 71(1710), 120(2200), 123(2230), 124(2240), 125(2250), 126(2260), 127(2270), 128(2280), 131(2310), 132(2320), 133(2330), 134(2340), 135(2350), 171(2710), 172(2720), 225(3250), 280(3800), 306(4060), 321(4000), 322(4250), 332(4920), 324(4260), 325(4270), 327(4030), 329(4050), 332(4320), 337(4370), 338(4380), 339(4360), 342(4340), 345(4350), 346(4410), 352(4420), 353(4440), 364(4450), 365(4540), 368(4510), 369(4520), 371(4560), 372(4580), 373(4610), 374(4620), 375(4640), 376(4650), 380(4930), 383(4750), 384(4770), 385(4760), 386(4740), 387(4070), 388(4080), 391(4940), 395(4950), 396(4960)
- SPECIAL OFFERINGS: 250(3500), 390(4900)

Writing Courses:

10(1100) Freshman Composition (3) [C]
Teaches critical reading and thinking skills and emphasizes writing as a process. Enhances writing skills through a sequence of increasingly complex writing assignments. Class discussion and small-group workshops focus on problems of invention, organization, development, and revision in essay writing. Fulfills the campus freshman writing requirement. Does not count toward the major in English.

11(1110) Freshman Composition for International Students (3) [C]
Prerequisite: Essay proficiency test or a TOFEL score of 500 or above. Theory and practice of writing expository American prose. Special attention is given to verb tenses, idioms, articles, and syntax. Does not count toward the major in English. This course substitutes for English 10(1100) in all university requirements.

103(2030) Introduction to the Writing of Poetry (3) [C,H]
Prerequisite: English 10(1100) or equivalent. An introduction to the writing of poetry and an exploration of contemporary poems as models for the writer. Students who have taken English 106(2060) may not take English 103(2030) for credit. The course counts toward the Certificate in Writing.

104(2040) Introduction to the Writing of Fiction (3) [C,H]
Prerequisite: English 10(1100) or equivalent. An introduction to the writing of fiction and an exploration of contemporary short stories as models for the writer. Students who have taken English 106(2060) may not take English 104(2050) for credit. The course counts toward the Certificate in Writing.

105(2050) Introduction to the Writing of Plays (3) [C,H]
Prerequisite: English 10(1100) or equivalent. An introduction to the writing of plays and an exploration of contemporary plays as models for the writer. The course counts toward the Certificate in Writing.

106(2060) Introduction to the Writing of Poetry and Fiction (3)
Prerequisites: English 10(1100) or equivalent. An introduction to the writing of poetry and fiction and an exploration of contemporary poems and short stories as models for the writer. Students who have taken English 103(2030) or 104(2040) may not take English 106(2060) for credit. The course counts toward the Certificate in Writing.

108(2080) Advertising Copywriting (3)
(Same as Comm 108(1108) To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting. The course counts toward the Certificate in Writing.

112(2120) Topics in Writing (3) [C,H]
Prerequisite: English 10(1100) or equivalent This course will introduce the student to writing in specific areas. The department will announce topics and course content in the Schedule. Possible topics are Argumentation, Reading and Writing About Public Affairs, Sports Reporting and Writing, and Writing About Science. A student may repeat the course once when topics are different. The course counts toward the Certificate in Writing.

203 Intermediate Poetry Writing (3)
Prerequisites: English 103(2030) or 106(2060) or the equivalent or consent of instructor. Workshop in poetry writing. The course counts toward the Certificate in Writing.
204 Intermediate Fiction Writing (3)
Prerequisites: English 104(2040) or 106(2060) or the equivalent or consent of instructor. Workshop in fiction writing. The course counts toward the Certificate in Writing.

209(3090) Practical Criticism: Writing About Literature (3)
Prerequisites: English 10(1100) or equivalent and junior standing. The course acquaints students with the techniques and terminology of literary criticism and trains them in the rudiments of writing about literature. Students compose eight to ten practical, critical essays on drama, poetry, fiction, and nonfictional prose. Explication of particular texts is emphasized. A longer critical paper incorporating secondary sources and introducing students to basic methods and resources for research is assigned. The course is required of English majors but is open to all qualified students. Course does not count toward the major in English. May not be taken on the satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

210(3100) Advanced Expository Writing (3)
Prerequisites: Freshman Composition 10(1100) or equivalent (3-6 hours). This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for academic and professional settings. The course includes complex readings, focuses on persuasion and argumentation, expands upon students' research and documentation skills, and requires research in university libraries. This course fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on the satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

211(3110) Advanced Expository Writing for International Students (3)
Prerequisite: English 11(1110) or equivalent. This course will develop the student's style and critical-analytical abilities in contemporary American English writing. The course will also offer an introduction to formal research and documentation methods for preparing papers in a variety of fields. Additional emphasis will be placed on improving the student's reading abilities, both in comprehension and vocabulary. Course satisfies the junior-level communicative skills requirement. May not be taken on the satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

212(3120) Business Writing (3)
Prerequisites: Freshman composition 10(1100) or equivalent (3-6 hours) This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for business and professional settings. Writing assignments may include business correspondence, reports, resumes, proposals, analyses, feasibility studies, and articles for in-house publications. The course emphasizes clarity, conciseness, organization, format, style, tone, and mechanical correctness; expands upon students' research and documentation skills; and requires research in university libraries. Fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

213(3130) Technical Writing (3)
Prerequisites: Freshman composition or equivalent (3-6 hours). The major elements of industrial technical writing. Writing assignments include technical definitions, abstracts and summaries, mechanism descriptions, instructions, process analyses, technical reports and proposals. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course includes an introduction to research methods and documentation. All readings are selected from industrial material. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

214(3140) News Writing (3)
(Same as Comm 214(3214) Prerequisite: English 10(1100) or equivalent. An introduction to news writing and reporting. Course covers basic components of news, reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed. The course counts toward the Certificate in Writing.

215 (3150) Feature Writing (3)
Prerequisite: English 10(1100) or equivalent. Study of free-lance and staff-written magazine or newspaper feature articles. Emphasis on relationship between types of publication and article content, research methods, and writing style. Frequent short assignments--journal entries, interviews, library projects, article critiques, and market reports--lead to production of full-length feature articles. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.
216(3160) Writing in the Sciences (3)
Prerequisite: Freshman composition 10(1100) or equivalent (3-6 hours). Designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals and a major project. Students are encouraged to select projects that will reflect work in a science course which may include a research or analytical report, a formal proposal or a procedures/instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course will include an introduction to research methods and documentation. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

218(3180) Reporting (3)
Prerequisite: English 214(3140) or equivalent. Theory and practice of reporting news for publication in the print media. Includes one classroom session and one field assignment weekly. Stories must be filed within deadline limits. Writing emphasis is on clarity, conciseness, and accuracy. The course counts toward the Certificate in Writing.

228(3280) Public Relations Writing (3)
(Same as Comm 228(2228)) Prerequisite: English 214(3140) or equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals. The course counts toward the Certificate in Writing.

303(4130) Advanced Poetry Writing (3)
Prerequisite: English 210(3100) or equivalent; English 103(2030) or 203 or consent of instructor; recommended prerequisite: 133(2330). Advanced workshop in poetry writing. The course counts toward the Certificate in Writing.

304(4140) Advanced Fiction Writing (3)
Prerequisite: English 210(3100) or equivalent; English 104(2040) or equivalent or consent of instructor. Advanced workshop in fiction writing. The course counts toward the Certificate in Writing.

305(4880) Writing for Teachers (3)
(Same as SEC ED 305(4880)) Designed for prospective as well as in-service teachers, the course includes: (1) writing - short papers to be shared in workshop groups; (2) reading - current theory and research on writing and the implications for teachers; (3) teaching - classroom activities that foster growth in writing. The course counts toward the Certificate in Writing.

313(4870) Advanced Business and Technical Writing (3)
Prerequisite: English 210(3100) or its equivalent as judged by instructor. An advanced, project-oriented course to produce substantial, multifaceted business and technical writing projects. These might include reports, manuals, proposals, Web projects, computer documentation, or other advanced written assignments. These projects demonstrate the ability to handle complex assignments requiring initiative, independent work, and professional-level writing skills. The course counts toward the Certificate in Writing.

317(4850) Topics in the Teaching of Writing (3)
(Same as Edu 317(4850).) Prerequisites: English 210(3100) or equivalent. Special topics in the practice of and pedagogy of writing designed for in-service teachers. Topics may include writing at specific grade levels, writing/reading workshops, writing in urban settings, writing across the curriculum, action research, new technology, classroom and district-level assessment. May be repeated once for credit if topics differ. The course counts toward the Certificate in Writing.

319(4860) Editing (3)
Prerequisites: English 210(3100) or equivalent as judged by instructor; English 122(2810) or 308(4810). Introduction to language and processes of editing. Includes copy editing, study of style manuals, and overview of production process. The course counts toward the Certificate in Writing.

320(4890) Independent Writing Project (3)
Prerequisite: English 210(3100) or its equivalent as judged by instructor. Course limited to students who are completing their certificates in writing. May be taken concurrently with the final course in the certificate sequence. Students work either individually or with an instructor to complete an extensive creative writing project or an internship.

329(4050) Forms and Modes of Poetry (3)
Prerequisite: English 209(3090) prerequisite or corequisite. An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and master-pieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g., Yeats, McKay, Bogan, Auden).

396(4160) Special Topics in Writing (3)
Prerequisites: English 210 (3100) or equivalent. Special topics in writing that are not covered in other 300-level English courses. Since the topics of English 396 (4160) may change each semester, the course may be repeated for credit if the topics area substantially different and consent of the instructor is given. The course counts toward the Certificate in Writing.
455(5120) Graduate Workshop in Poetry and Fiction (3)  
Prerequisite: Open to students in the MFA program and to others with consent of the instructor. Consists of a writing workshop in which the poetry and fiction written by the students enrolled in the course are discussed and analyzed by the instructor and members of the class. Students taking this course are expected to write original poetry and/or fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

456(5130) Graduate Workshop in the Novel (3)  
Prerequisite: Consent of the instructor, based on submission of sample of novel manuscript. A writing workshop in which a novel written by the student is discussed and analyzed by the instructor and members of the class. Students must have a complete novel manuscript (50,000 words minimum) ready for discussion by the beginning of class. May be repeated for maximum graduate credit of fifteen (15) hours.

457(5140) Graduate Workshop in Nonfiction (3)  
Prerequisites: Open to students in the MFA program and to others with permission of the instructor. A variable-topics writing workshop focusing on one or more of the following forms: personal essay, memoir, travel writing, literary journalism, biography, or other types of literary nonfiction. May be repeated for maximum graduate credit of fifteen (15) hours.

458(5170) Techniques, Methods, and Effects in Fiction Writing (3)  
Prerequisites: Open to students in the MFA program and to others with consent of the instructor. This course analyzes the technical choices made by important contemporary fiction writers in the area of point of view, tone, seeing, form, and plot structure, and it examines the effects of those choices. Close consideration is given to fictional techniques that contribute to a story's characterization, tension, interest, reliability, drama, irony, and humor. The course is primarily for creative writers.

459(5190) Literary Journal Editing (3)  
Prerequisite: Open to students in the MFA program who have had at least two graduate writing workshops and to others with permission of the instructor. In this course students serve as the first readers of all submissions to the university's literary magazine, *Natural Bridge*. Students will read and evaluate poems, short stories, and essays and recommend a body of work to the editorial board of the magazine. The editorial board will then consider the class consensus in its final selection of material for publication. In addition to this primary task of editorial selection, students will also be involved in the production of an issue of the magazine. May be repeated for maximum graduate credit of nine hours.

485(5840) Theories of Writing (3)  
An analysis of major modern theories in composition.

487(5860) Writing/Reading Theory (3)  
The parallel evolution of reading and writing theory and pedagogy. Topics include the influence of psycho-linguistics and reader-response theory and the link between reading and writing theory and instruction.

488(5870) Composition Research (3)  
Students analyze and conduct research in composition. Course work teaches students to evaluate methodologies and implications, and to analyze data and to design research.

489(5890) Teaching College Writing (3)  
Provides the opportunity for practical application of composition theory with an emphasis on improving teaching skills. Strongly recommended for graduate teaching assistants.

490(5880) Gateway Writing Project (1-6)  
(Same as SecEd 436/6880, Tch Edu 6880). An intensive course in the writing process and the writing curriculum, designed for experienced teachers. Readings of current theory and research will be related to participants' experiences as writers and as teachers. Topics may vary. May be repeated for credit. No more than six hours may be applied toward the M.Ed. Counts toward the Certificate in Writing.

491(5850) Studies in Composition (3)  
The study of special topics in composition. Topics may include history of composition, psychology of writing, reader-response theory, etc.

492(5100) Graduate Workshop in Poetry (3)  
Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the poetry written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course are expected to write original poetry throughout the course. May be repeated for maximum graduate credit of fifteen hours.

493(5110) Graduate Workshop in Fiction (3)  
Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the fiction (short stories or chapters of a novel) written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course are expected to write original fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.
494(6010) Final Writing Project (3-6)
Prerequisite: Successful completion of 15 hours in graduate creative writing courses or permission from instructor. An independent writing tutorial taken by students after they have completed all other creative writing course work. Completion of the project requires a substantial body of original poetry or fiction. May be repeated for maximum graduate credit of six (6) hours.

496(5200) MFA Readings (3)
Prerequisites: Open to students in the MFA program and to others with consent of the instructor. This is an independent readings course. In consultation with an MFA faculty member, students choose works from the MFA Reading List and read them with the goal of broadening and sharpening their technical skills as writers. Students ordinarily choose works in one genre: poetry, the short story, or the novel. Each week the student reads and reports on at least one work. The course may be taken only once.

Language Courses:

122(2810) Traditional Grammar (3) [C]
An introduction to the terms and concepts of traditional grammar, beginning with the parts of speech and moving to more complex structures such as participles, gerunds, and clauses. The course also deals with the conventions of formal usage and punctuation.

307(4800) Linguistics (3)
Prerequisite: English 210(3100); majors, English 209(3090). A survey of linguistics with emphasis on what the field reveals about the English language. Topics include the sounds of language, grammar, writing systems, language acquisition, language in society, language history, dialects, and usage.

308(4810) English Grammar (3)
Prerequisite: English 210(3100); majors, English 209(3090). A study of modern English grammar from the perspectives of traditional, structural, and transformational grammar.

309(4820) History of the English Language (3)
Prerequisite: Prerequisites: English 210(3100) or equivalent. A historical survey of the English language from its Indo-European roots through Old and Middle English to the present. Topics include changes in sound, meaning, and grammar, as well as developments in American English, including regional and social dialects.

410(5800) Modern Linguistics (3)
A study of selected topics in the structure of the English language, combining readings in current linguistics publications with original research.

College of Arts & Sciences
Department of English

Literature Courses:

12(1120) Literary Types (3) [C,V,H]
The student is introduced to the various literary types, including poetry, drama, fiction, and the essay.

13(1130) Topics in Literature (3) [C,H]
Introduces the student to selected literary topics and/or genres. Each semester the department will announce topics and course content. Topics such as alienation, justice, and the absurd, and genres such as science fiction and contemporary drama are typical possibilities.

15(1150) Images of the Elderly in Film (3)
(Same as Gerontology 15(1115).) Analysis of the portrayal of older adults in various films. Class discussions focus on the style and thematic content of the film, as well as intergenerational relationships.

16(1160) Images of Age in Literature (3)
(Same as Gerontology 16(1116).) Reading and discussion of literature that portrays aging and old age in various settings. Emphasis is on contemporary novels, but poetry and drama such as King Lear are read as well. Discussion and short essays enable consideration of how literature helps in the study of aging and also how the process of aging can be a creative force within literature.

17(1170) American Literary Masterpieces (3)
An introduction to major themes and works in American literature from the nineteenth century to the present. Selected works from Hawthorne, Poe, Melville, Whitman, Twain, James, Frost, Hemingway, Faulkner, O'Connor, Plath, and Bellow.

20(1200) Myth (3) [C,V,H]
The nature of myth, with some consideration of the various theories used to account for its origins. An examination of central mythic motifs, images, and characters. While some attention will be given to comparing the mythologies of different cultures, the emphasis will be on reading Classical Greek and Roman mythology.

70(1700) African-American Literature (3) [C,H]
a survey of prose, poetry, and drama by black Americans from the period of enslavement through the Harlem Renaissance to the present.

71(1710) Native American Literature (3) [C,CD,H]
(Same as Anthropology 71.) Surveys the literature of American Indians from its oral tradition of myth, legend, song, and oratory through its modern forms. The course satisfies the ethnic literature requirement for Missouri state certification in Secondary Education and the College of Arts and Sciences Cultural Diversity requirement.
120(2200) Classical Literature in Translation (3) [C, V, H]
The civilization of ancient Greece and Rome as reflected by their major creative writers in some of their principal works: the epics of Homer and Vergil; the plays of Aeschyus, Sophocles, Euripides, Aristophanes, Plautus, Terence, and Seneca; the lyrics of Sappho and Catullus; the satire of Petronius; and Ovid's rendering of the classical myths.

123(2230) Jewish Literature (3) [C, H]
Examines the traditional Jewish literature of the Bible and later legends found in the Talmud and Midrash and also considers later phases of Jewish literature, both sacred and secular. These include medieval folklore and Hasidic tales.

124(2240) Literature of the New Testament (3) [C, H]
A comprehensive understanding of the New Testament, its literary background, and significance for Western civilization.

125(2250) Literature of the Old Testament (3) [C, H]
Prerequisite: Sophomore standing or consent of instructor. A comprehensive understanding of the Old Testament, its literary background, and significance for Western civilization.

128(2250) The Contemporary World in Literature (3) [V, H]
Selected world literature since the second World War from the Middle East, Europe, Latin America, Africa, India, and Asia with emphasis on non-European literatures. This course excludes literature from the United States and England and it satisfies the College of Arts and Sciences Cultural Diversity requirement.

131(2310) English Literature I (3) [C, H]
The development of English literature from the Middle Ages through the eighteenth century. Reading and analysis of representative works of selected major writers.

132(2320) English Literature II (3) [C, H]
The development of English literature during the nineteenth and twentieth centuries. Reading and analysis of representative works of selected major writers.

133(2330) Introduction to Poetry (3) [C, H]
A close study of poems, with special emphasis on the varieties of poetic forms, and the means of interpretation and evaluation. The works studied will be primarily English and American, and from at least three different centuries.

134(2340) Introduction to Drama (3) [V, H]
A close study of major dramatic works in various modes, to introduce the student to the forms and techniques of dramatic literature. The works studied will be primarily English and American, and from at least three different centuries.

135(2350) Introduction to Fiction (3) [C, H]
A close study of major prose fiction, with particular attention to the varieties of fictional forms and techniques. The works studied will be primarily English and American, and from at least three different centuries.

171(2710) American Literature I (3) [C, H]
Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century.

172(2720) American Literature II (3) [C, H]
Representative selections from American authors from the middle of the nineteenth century to the present. Fulfills the requirement for Missouri Teacher Certification of a unit in "literature of American ethnic groups" and a unit in American literature for adolescents."

136(2460) Shakespearean Drama (3)
Prerequisite: English 210(3100); or, for majors, English 209(3090) prerequisite or corequisite and English 131(2310) prerequisite or permission of instructor. An introduction to the literary culture of Anglo-Saxon England through study of the Old English language and close reading of a diverse group of Old English texts from the eighth to eleventh centuries.

321(4000) History of Literary Criticism (3)
Historical survey of the principles of literary criticism from Plato to the present.

322(4250) Old English Literature (3)
Prerequisite: English 210(3100); or, for majors, English 209(3090) prerequisite or corequisite and English 131(2310) prerequisite or permission of instructor. An introduction to the literary culture of Anglo-Saxon England through study of the Old English language and close reading of a diverse group of Old English texts from the eighth to eleventh centuries.

323(4920) Continental Fiction (3)
Prerequisites: Two college courses in literature. The development of the European novel in the nineteenth and twentieth centuries. Representative works of writers such as Balzac, Flaubert, Dostoevsky, Tolstoy, Kafka, and Proust, read in translation.
324(4260) Chaucer (3)
Concentrates on the poetry of Geoffrey Chaucer, including the Canterbury Tales, early poetic works, and the Troilus and Cris... exclusive of Chaucer. All works are read in modern English translations.

325(4270) Medieval English Literature (3)
A survey of old and middle English literature from Beowulf to Malory's Morte d'Arthur, exclusive of Chaucer. All works are read in modern English translations.

327(4030) Contemporary Critical Theory (3)
This course is to acquaint students with a range of critical methodologies that have gained currency since the 1960s. The kinds of criticism considered include formalist (New Critical, Russian, and Aristotelian), structuralist, poststructuralist, Marxist, reader-response, psycho-sexual, and feminist.

329(4050) Forms and Modes of Poetry (3)
An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g., Yeats, McKay, Bogan, Auden).

332(4320) Elizabethan Poetry and Prose (3)
Spenser, Sidney, Wyatt, and other poets of the later sixteenth century. The origin and development of prose fiction.

337(4370) Shakespeare: Tragedies and Romances (3)
The development of Shakespeare's concept of tragedy and tragicomedy from Titus Andronicus to The Tempest. The plays will be related to the social and literary milieu of the period.

338(4380) Shakespeare: Comedies and Histories (3)
Shakespeare's early work for the theater with some attention to the sonnets and longer poems. An historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage, and Shakespeare's biography.

339(4360) Tudor and Stuart Drama (3)
A survey of the dramatic writings of the period from the interludes of John Heywood to the closing of the theaters in 1642, with particular attention to the plays of Marlowe, Jonson, Webster, and Ford. Though Shakespeare will not be studied in this course, connections between his works and those of his contemporaries will be discussed.

342(4340) Early Seventeenth-Century Poetry and Prose (3)
Donne, Jonson, Marvell, Bacon, and other poets and essayists of the Metaphysical, Cavalier, and Baroque schools, exclusive of Milton.

345(4350) Milton (3)
All the minor poems and the three longer poems with some attention to the major prose; Milton and his relation to the politics, theology, and literature of the seventeenth century.

346(4410) Restoration and Eighteenth-Century Drama (3)
The principal tragedies and comedies from Dryden to Sheridan, including the plays of Congreve, Farquhar, Rowe, Gay, Fielding, and Goldsmith, among others.

352(4420) Age of Dryden and Pope (3)
The beginnings of English neoclassic literature in the Restoration and its development through the first half of the eighteenth century, focusing on Dryden, Swift, and Pope.

353(4440) Age of Johnson (3)
The breakdown of the neoclassic spirit and the introduction of the "new" poetry and novel. Consideration of Fielding, Johnson, Thompson, Young, Goldsmith, Sheridan, and others.

364(4450) The Eighteenth-Century English Novel (3)
The origins and early development of the English novel, from Defoe to Jane Austen.

365(4540) The Nineteenth-Century English Novel (3)
Novels of the Romantic and Victorian Periods, from Austen to George Eliot.

368(4510) Early Romantic Poetry and Prose (3)
The English romantic movement with special emphasis on the early writers--Blake, Wordsworth, and Coleridge. Additional readings in selected prose writers and minor poets.

369(4520) Later Romantic Poetry and Prose (3)
The English romantic movement with special emphasis on the later writers--Byron, Shelley, and Keats. Additional readings in selected prose writers and minor poets.

371(4560) Prose and Poetry of the Victorian Period (3)
Critical readings of selections from Tennyson, Browning, Arnold, and others, in addition to selections from the major prose writing.

372(4580) Literature of the Late Nineteenth and Early Twentieth Centuries (3)
Literature of the period between 1870 and the First World War, including works by writers such as Hardy, Conrad, James, Wilde, Stevenson, Shaw, Jefferies, and Wells.

373(4610) Selected Major American Writers I (3)
American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others.
374(4620) Selected Major American Writers II (3)
American literature of the late nineteenth and early
twentieth centuries: James, Twain, Stephen Crane, Dreiser,
and others.

375(4640) American Fiction to World War I (3)
Development of the novel and short story in America.
376(4650) Modern American Fiction (3)
The novel and short story in America since World War I.
There may be some attention to British and continental
influences.

380(4930) Studies in Women and Literature (3)
The course examines feminist critical approaches to
literature, the appropriation or transformation of literary
genres by women writers, or the writings of women during
a particular historical period. Specific topics vary from
semester to semester. The course may be repeated for
credit if topics are substantially different.

383(4750) Modern British Fiction (3)
Critical reading and analysis of British fiction of the
twentieth century. There may be some attention to
American and continental influences.

384(4770) Modern Poetry (3)
Critical reading and analysis of poetry of the late
nineteenth and early twentieth centuries: Yeats, Eliot,
Frost, Williams, and others.

385(4760) Modern Drama (3)
British, American, and European drama of the last one
hundred years: the well-made play, the problem play, verse
drama, new definitions of tragedy, the angry theater,
threater of the absurd.

386(4740) Poetry Since World War II (3)
Reading and analysis of contemporary poetry.

387(4070) The Two Cultures: Literature and Science
(3)
Prerequisite: English 132(2320); English 209(3090), (may
be taken concurrently). Surveys the history of the debate
about the relations between literature and science,
beginning with the exchange between Arnold and Huxley
in the Victorian period, continuing through the debate
between Leavis and Snow at mid-century, and concluding
with current controversies and with current efforts at
interdisciplinary synthesis.

388(4080) Narrative, Cognition, and Emotion (3)
Prerequisite: English 132(2320); English 209(3090),
prerequisite or co-requisite. Examines narrative theory in
the light of recent research into cognitive organization and
the structure of the emotions. Traditional and
contemporary theories of narrative--of realism, symbolism,
point of view, tone, and genre--are developed through
recent findings in empirical science. A variety of stories
and novels are used as test cases for theoretical
propositions.

391(4940) Special Topics in Jewish Literature (3)
Intensive readings, critical discussion, and writing on
topics relating to Jewish literature. Topics to be
announced. This course may be repeated for credit if the
topics are substantially different.

395(4950) Special Topics in Literature (3)
Special topics in literature that are not covered in other
300(4000)-level English courses. Since the topics of
English 395(4950) may change each semester, the courses
may be repeated for credit if the topics are substantially
different.

400(5000) Introduction to Graduate Study in English
(3)
A course designed to prepare students for the professional
study of English. The course will both familiarize students
with basic bibliographic tools and scholarly methods and
introduce them to issues that are of current critical interest
to those engaged in the advanced study of literature. These
issues include gender, textuality, reader-response,
multiculturalism, feminism, psychoanalysis, cultural
studies, literary history and the relationship of literature to
philosophy, history and science. Must be taken within the
first twelve hours of graduate study.

415(5030) Literary Criticism (3)
An examination of selected theories of literature.

416(5040) Feminist Critical Theory (3)
Prerequisite: Graduate standing and consent of instructor.
A consideration of feminist critical theory as a means of
reassessing literary texts and our cultural heritage. After
exploring the roots of feminist criticism, the seminar will
examine Anglo-American and continental debates on
theories of language, writing and representation. In
providing an interdisciplinary context the course will
consider studies in psychology, anthropology, history, and
philosophy/theology which have influenced and enriched
feminist approaches to literature.

421(5250) Studies in Middle English Literature (3)
Special topics in English literature before 1500.

430(5300) Renaissance Literature (3)
Special topics in English literature from 1500 to 1660.

450(5400) Eighteenth-Century Literature (3)
Studies in Augustan poetry and prose, including drama and
fiction, with emphasis on background and major figures.

460(5910) Studies in Poetry (3)
Study of a few selected British and American poets.
465(5920) Studies in Fiction (3)
Study of a few selected British and American novelists and short story writers.

467(5930) Studies in Drama (3)
Study of a few selected British and American dramatists.

470(5500) Nineteenth-Century Literature (3)
Special topics in English romanticism, in Victorian life and thought, and in the development of the novel and of poetry between 1797 and 1914.

475(5600) American Literature Before 1900 (3)
Selected American writers or topics from the Colonial period to 1900.

476(5700) Twentieth-Century American Literature (3)
Selected American writers or topics from 1900 to the present.

480(5750) Twentieth-Century British Literature (3)
Selected British and Commonwealth writers of the twentieth century.

495(5950) Seminar in Special Topics (1-3)
Special topics which are not covered in other graduate-level English courses.

497(5970) Independent Reading (1-3)
Directed study in areas of English for which courses are not available.

499(6000) Thesis (6)
Prerequisite: 3.5 graduate G.P.A. Thesis research and writing on a selected topic in English studies.

Special Offerings

250(3500) Special Studies (1-3)
Prerequisites: A course in the area of proposed work and consent of instructor. Individual work, with conferences adjusted to needs of the student. May not be used to meet specific English department distribution and language requirements. May be repeated for a maximum total of three hours credit.

262(3600) The Curriculum and Methods of Teaching English (3)
Prerequisites: Completion of Level II courses and a near major in the subject area. (Same as Sec Ed 232(3600). A study of the scope and sequence of the English courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Includes field experiences. The course prepares students for reflective teaching by relating course readings to field experiences and theory to practice. To be taken prior to student teaching and concurrently with professional internship. This course must be completed in residence.

270(3700) English Student Teaching Seminar (2)
(Same as Sec Ed 270(3700). A seminar in the integration of English curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec Ed 290(3290).

390(4900) Seminar (3)
Prerequisite: Consent of instructor. Intensive reading, critical discussion, and writing on topics to be announced each semester. Since the topics of English 390(4900) may change each semester, the course may be repeated for credit if the topics are substantially different. Enrollment limited to twelve students.
Department of Foreign Languages and Literatures

Faculty

Rolf R. Mueller, Assistant Professor, German, Chairperson
Ph.D., University of Kansas
Roland A. Champagne, Professor*, French, Ph.D., Ohio State University
Lorna V. Williams, Professor*, Spanish Ph.D., Indiana University
Jeanne Morgan Zarueehi, Professor*, French and Art History Ph.D., Harvard University
Marcus Allen, Associate Professor Emeritus*, French Ph.D., University of Pittsburgh
Albert J. Camigliano, Associate Professor Emeritus, German Ph.D., University of Wisconsin
Alfred F. Goessl, Associate Professor Emeritus*, German Ph.D., Tulane University
Ingeborg M. Goessl, Assistant Professor Emerita*, German Ph.D., University of Kansas
Paul R. Hoffman, Assistant Professor Emeritus, German M.A., University of Michigan
Malte Núñez-Betelu, Assistant Professor, Spanish Ph.D., University of Missouri-Columbia
Sheridan Wigginton, Assistant Professor, Spanish and Education Ph.D., University of Missouri-Columbia
Zayda Arrillaga, Lecturer, Spanish M.A., Harvard University
Deborah Baldini, Senior Lecturer, Spanish M.A., Washington University
Rita Bergoudian, Senior Lecturer, French M.A., University of South Carolina
Anne-Sophie Blank, Senior Lecturer, French M.A., Washington University
Martha Caeiro, Lecturer, Spanish M.A., Washington University
Donna Cays, Lecturer, Spanish M.A., Saint Louis University
Elizabeth Eckelkamp, Lecturer, Japanese M.A., Washington University
Nancy Mayer, Lecturer, ESL M.A.T., Webster University
Denise Mussenman, Lecturer, ESL M.A., University of Illinois-Chicago
Birgit Noll, Lecturer, German M.A., Washington University
Margaret B. Phillips, Senior Lecturer, Latin Ph.D., Saint Louis University
Sandra Trapani, Lecturer, French M.A., University of Missouri-Columbia
Susan Walter, Senior Lecturer, Spanish M.A., Washington University
Susan Yoder-Kreger, Lecturer, Spanish M.A., University of Virginia, Charlottesville
*members of Graduate Faculty

General Information

Degrees and Areas of Concentration
The Department of Foreign Languages and Literatures offers course work in French and Spanish, leading to the B.A. degree, and a field of concentration in each of these languages for students seeking the B.S. degree in education. In addition, the department offers lower-level courses in Chinese, English as a Second Language, German, Modern Greek, Italian, Japanese, and Latin.

A minor in French, German, or Spanish may also be earned in the department. For details, see specific requirements for the minor, which appears later in this section.

The department maintains a library where books, journals, magazines, and other foreign language realia are available to students, and a language resource center with audiovisual and computer materials.

Cooperative Study
Courses in other languages are available to UM-St. Louis students through Washington University, Saint Louis University, Harris-Stowe State College, and SIU-Edwardsville. For information, consult the UM-St. Louis registrar's office.

Study Abroad
Language students who have been at the University of Missouri-St. Louis at least one semester and have studied the language at least one year may receive credits for formal study abroad during the summer. Prior consent of the department must be obtained for summer courses abroad, and the student must present a transcript for evaluation. Exchange programs are available with several universities in foreign countries. For information, contact the study abroad office.

Alumni Scholarship
Qualified junior and senior language majors may apply for the Foreign Language Alumni Scholarship, which is renewable each semester on a competitive basis. For information, contact the department.

Community College Scholarship
Qualified community college students may apply for the Foreign Language Community College Scholarship to be applied for educational fees toward the enrollment in third semester or higher courses in French, German, or Spanish. This scholarship must be used within one semester of the award. For information, contact the department.
German Scholarships
Students of German may apply for UM-St. Louis Summer Abroad scholarships that will partially finance their summer studies abroad. For information, contact the department.

Departmental Honors Candidates for departmental honors in French or Spanish must meet the following requirements:

1) Achieve a GPA of 3.5 in the major for all hours attempted beyond the first two semesters. (Language Courses 001(1001) and 002(1002).
2) Maintain an overall GPA of 3.0.
3) Successfully complete an honors thesis or project.

Undergraduate Studies

General Education Requirements
Each language major must satisfy the general education requirements of the university and the general education requirements of the College of Arts and Sciences. Any literature or civilization course offered by the department may be used to meet the humanities requirement.

Satisfactory/Unsatisfactory Option
Students who have fulfilled the language requirement (13 hours: Language Courses 001(1001), 002 (1002), and 101(2101) may enroll in a second language on a satisfactory/unsatisfactory basis.

Specific Requirements or Restrictions
Students entering with no high school language units must enroll in Language 001(1001) or may enroll in Language 115(2115). Language 115 (a,b, and c)(2115) is the intensive study of a language and will satisfy the foreign language requirement.

115(2115)a, 115(2115)b, and 115(2115)c are co­ requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better, to satisfy the foreign language requirement.

A grade of D in a Language 001(1001) course is a passing grade but not an entrance grade for a Language 002(1002) course. A grade of D in a Language 002(1002) course is a passing grade but not an entrance grade for a Language 101(2101) course or its equivalent. A grade of D in a Language 101(2101) course fulfills the language requirement, but is not an entrance grade for a higher-level course.

Demonstration of a high level of proficiency may reduce the number of hours required for the major. Native speakers of a foreign language should consult with the department concerning appropriate placement.

Course of Arts & Sciences

College of Foreign Languages and Literatures

Students may not take for credit an elementary course if they already completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

Degree Requirements
Students electing to major in the department must have completed the 002(1002) course in the language selected with a grade of C- or better. Any major who receives a grade of D in any course required for the major must repeat that course. No course required for the major may be taken on a satisfactory/unsatisfactory (su) basis.

Bachelor of Arts
All students seeking a B.A. in a foreign language must meet the departmental requirement of a minimum of 33 hours (excluding Language 001(1001) and 002(1002). The maximum number of hours that may be taken in the major is 45 (including Language 001(1001) and 002(1002)). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 264(3264) (same as SEC ED 274(3274), Curriculum and Methods of Teaching Foreign Languages, Course 364(4364) (same as SEC ED 374(4374), Foreign Language Teaching Seminar, and fulfill the professional secondary education requirements of the College of Education.

Bachelor of Science in Education Those students seeking the B.S.Ed. degree, with a concentration in a foreign language, are required to complete 30 hours of work (excluding credit for Language 001(1001) and 002(1002), of which 12 hours must be on the 300 level. Students working toward a degree in elementary education, with related work in a foreign language, should consult the College of Education concerning their program.

Transfer Students
Transfer students majoring in one of the foreign languages must complete at UM-St. Louis a minimum of 12 graded hours in language courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Native Speakers
Native speakers must complete five courses in the 200 level or above to obtain a major in their native language.

Specific Requirements for the Major

French
Each major in French must complete the following courses:

101(2101), Intermediate French Language and Culture, or the equivalent
170(2170), Composition and Conversation
180(2180), Readings in French
200(3200), Advanced Grammar
211(3211), Contemporary French Civilization
College of Arts & Sciences
Department of Foreign Languages and Literatures

280(3280), French Literature I: Middle Ages to Eighteenth Century
281(3281), French Literature II: Nineteenth and Twentieth Centuries
and four courses at the 300-level.

The following courses are also strongly recommended:

**German 110(2110)**, Masterpieces of German Literature in Translation
**Spanish 110(2110)**, Spanish Literature in Translation
**History 351(4351)**, Contemporary France: Since 1870

**Spanish**

Each major in Spanish must complete the following courses:

101(2101), Intermediate Spanish Language and Culture, or
105(2105) Commercial Spanish, or the equivalent

Two of the following three:

171(2171), Spanish Conversation and Pronunciation
172(2172), Spanish Composition
180(2180), Readings in Spanish

200(3200), Syntax of the Spanish Language
210(3210), Hispanic Culture and Civilization: Spain, or
211(3211), Hispanic Culture and Civilization: Spanish America
280(3280), Introduction to Hispanic Literature: Spain
281(3281), Introduction to Hispanic Literature: Spanish America

and four courses at the 300-level, one of which must be:

399(4399), Seminar on Hispanic Literature

The following courses are also strongly recommended:

**French 110(2110)**, Modern French Literature in Translation, or 150(2150), European Literature in Translation: Special Topics
**German 110(2110)**, Masterpieces of German Literature in Translation
**History 355(4355)**, History of Spain
**History 371(4371)**, History of Latin America: to 1808
**History 372(4372)**, History of Latin America: Since 1808
**PolSci 253(3253)**, Political Systems of South America
**PolSci 254(3254)**, Political Systems of Mexico, Central America, and the Caribbean

Specific Requirements for the Minor

A minor in French, German, or Spanish requires the completion of four courses in the language beyond the basic foundation sequence (Language 1, Language 2, and Language 101(2101)). Transfer students must complete at least two courses for the minor at UM-St. Louis. All courses must be passed with a grade of C- or better.

**French**

170(2170), Composition and Conversation
180(2180), Readings in French
Plus two French courses on the 200-level or above.

**German**

170(2170), Composition and Conversation
180(2180), Readings in German
Plus two German courses on the 200-level or above.

**Spanish**

Two of the three

171(2171), Conversation and Pronunciation
172(2172), Composition
180(2180), Readings in Spanish
Plus two Spanish courses on the 200-level or above.

Students pursuing a graduate degree in secondary education may select an emphasis area in French, German, or Spanish. These required eighteen hours may be selected from 300 and 400 level courses in these languages.

Certificate in Foreign Language and Study Abroad

Students seeking the certificate must complete language courses at UM-St. Louis and abroad. The Center for International Studies and the Department of Foreign Languages and Literatures cooperate in offering the Certificate.

1) Foreign language study at UM-St. Louis

Students must select one of the following languages and complete the required courses at UM-St. Louis. Total: 6 credit hours.

A. French

French 170(2170), Composition and Conversation
French 180(2180), Readings in French

B. German

German 170(2170), Composition and Conversation
German 180(2180), Readings in German

C. Spanish

Spanish 172(2172), Spanish Composition
Spanish 180(2180), Readings in Spanish

2) Foreign language study abroad

Students must complete two additional three credit hour courses, in language or literature, taught in the same target language selected above, at a foreign university that is affiliated with the UM-St. Louis Study Abroad Program, towards the goal of increasing competence in the target language. Total: 6 credit hours. All courses must be approved by the Department of Foreign Languages and Literatures.
Students should consult the study abroad advisor in the Center for International Studies to select a site for their study abroad experience. Then, students should consult their advisor in the Department of Foreign Languages and Literatures to select appropriate courses.

Career Outlook

Graduates with a foreign language degree may elect to enter the fields of teaching, business, journalism, communications, or government, or to pursue advanced degrees in their specialty. It is especially recommended that students consider a double major or another discipline and a language. A language then becomes an asset that makes graduates more adaptable to the demands of international communication in their second major discipline and hence more competitive and marketable upon completion of the B.A. degree.
Course Descriptions

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin.

FRENCH: 101(2101), 110(2110), 150(2150), 180(2180), 211(3211), 280(3280), 281(3281), 331(4331), 341(4341), 342(4342), 353(4353), 354(4354), 362(4362), 365(4365), 371(4371), 375(4375), 390(4390). GERMAN: 101(2101), 110(2110), 150(2150), 180(2180), 201(3201), 202(3202), 210(3210), 311(4311), 315(4315), 320(4320), 345(4345), 397(4397), 398(4398), 399(4399). ANCIENT GREEK: 101(2101), MODERN GREEK: 101(2101), ITALIAN: 101(2101), JAPANESE: 101(2101), LATIN: 101(2101), SPANISH: 101(2101), 110(2110), 111(2111), 150(2150), 180(2180), 210(3210), 211(3211), 280(3280), 281(3281), 310(4310), 315(4315), 320(4320), 321(4321), 325(4325), 330(4330), 331(4331), 335(4335), 340(4330), 345(4345), 351(4351), 360(4360), 399(4399).

111(2111) Love in the Western World (3)
This course will examine concepts of love in western literary traditions. Its main focus will be concepts of love from Greek and Roman antiquity and Christianity, and the ways that these concepts have shaped modern ideas of love. Emphasis on language and culture is also important in interpreting the texts.

264(3264) Curriculum and Methods of Teaching Foreign Languages (3)
(Same as SEC ED 274(4274).) Prerequisites: TEACHER EDUC 310(4310) and passing the departmental language skills test. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign languages. To be taken prior to student teaching. This course must be completed in residence.

300(4300) Language Acquisition and Analysis (3)
The nature of human language, including language universals, sounds and sound patterns, word formation, and language processing. Students will be acquainted with first and second language acquisition, and will analyze data from various languages. Recommended for teachers of English and foreign languages.

364(4364) Foreign Language Teaching Seminar (2)
(Same as Sec Ed 374(4374).) Prerequisite: Concurrent enrollment in Sec Ed 290(3290) or consent of instructor. A practicum course in the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of FLL 264(3264), Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with Sec Ed 290(3290), Student Teaching.

399(4399) Standards-Based Foreign Language Instruction (3)
Prerequisites: Teacher certification and one year teaching experience. Designed to provide in-service foreign language teachers with the background to enable them to design instructional units, which incorporate the standards for foreign language learning. May be applied toward the Master's in Secondary Education with an emphasis in foreign language teaching.

464(5464) Issues in Foreign Language Methodology (3)
Prerequisite: Foreign language education certification and teaching experience. Designed for secondary foreign language teachers, this course addresses recent developments in approaches and methods in the teaching of foreign languages. Emphasis is on curriculum design, teaching strategies, and evaluation.

Chinese

Courses in Chinese are taught on the UM-St. Louis campus by faculty of Washington University, through the Joint Center for East Asian Studies.

001(1001) Chinese I (5)
Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese and upon the acquisition of the fundamentals of grammar and syntax.

002(1002) Chinese II (5)
Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese. Continuation of the acquisition of the fundamentals of grammar and syntax.

101(2101) Intermediate Chinese I (5)
Prerequisite: Chinese II or equivalent. Grammar review and continued development of language skills.

102(2102) Intermediate Chinese II (5)
Prerequisite: Chinese 101(2101) or equivalent. Continuation of Chinese 101(2101).

190(2190) Special Readings (1-3)
Prerequisite: Chinese 102(2102) or consent of the department. Independent study through readings, reports, and conferences.
English as a Second Language

201(3201) ESL Listening and Speaking Skills (3)
Prerequisite: Minimum TOEFL score of 450 or placement by examination. This course is for international students. They gain skills in conversational level listening and speaking. Students improve comprehensive and discrete listening skills, conversation in various situations, strategies and pronunciation. In addition, students will practice these skills and learn about American culture by participating in local field trips. This course does not count toward a degree.

203(3203) Intermediate ESL Reading and Writing (3)
Prerequisite: Minimum TOEFL score of 450 or placement by examination. In this course international students develop fluency in their reading and writing skills in American English. This course consists of reading a variety of types of written texts, vocabulary building, organization in writing from the paragraph to essay, techniques for generating ideas, grammar use and editing. This course does not count toward a degree.

205(3205) Intermediate ESL Grammar (3)
Prerequisite: Minimum TOEFL score of 450 or placement by examination. A course for international students who have already studied Basic English grammar. The content covers intensive study of verb tenses; their forms, meanings an integrated use; and other grammatical structures. This course does not count toward a degree.

301(4301) Advanced ESL Conversation and Pronunciation (3)
Prerequisite: Minimum TOEFL score of 500. Designed for non-native speakers who need to improve their fluency and pronunciation in American English. Conversation strategies, oral presentations and extensive practice to reduce accent are included. This course does not count toward a degree.

302(4302) Advanced ESL Listening and Note-taking (2)
Prerequisite: Successful completion of ESL 201(3201), minimum TOEFL score of 500 or placement by examination. Listening and note-taking skills are developed through practice. Students learn to recognize the organization and emphasis of class lectures. Strategies include vocabulary building, test taking, and participation in class discussions. This course does not count toward a degree.

303(4303) Advanced ESL Reading and Writing (3)
Prerequisite: Successful completion of ESL 203(3203), minimum TOEFL score of 500 or placement by examination. To prepare students for English 101(1100) or English 210(3210), writing skills include organization of essays, rhetorical forms and their structure works, revision of ideas, research techniques, grammar use and editing. For reading development, students read articles and a novel, practice reading strategies and learn how to summarize articles. This course does not count toward a degree.

307(4307) Advanced Pronunciation and Accent Reduction (3)
Prerequisites: ESL 301(4301), placement or consent of instructor. Designed for non-native speakers who have fluency in speaking English but need to reduce their accent to be better understood and feel confident expressing ideas. Course includes review and practice of the pronunciation of the consonants and vowels in American English; accent reduction, achieved through extensive practice of the stress, rhythm and intonation patterns; speaking skills through presentations.

305(4305) Advanced ESL Grammar (3)
Prerequisites: Minimum TOEFL score of 500. This course is for ESL students who need review and applied practice of English grammar for oral and written work. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

390(4390) Special Readings (1-3)
Prerequisites: Consent of instructor. Independent study through readings, reports and conferences.

400(5400) International Teaching Assistant Seminar (1-3)
Prerequisites: Consent of department. Focus is on presentation skills, strategies to facilitate communication, and cultural differences in education. Students develop effective teaching skills through class presentations. Not applicable to graduate degree program.

French

001(1001) French I (5)
Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002(1002) French II (5)
Prerequisite: French 1 or equivalent. Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

101(2101) Intermediate French Language and Culture (3)
Prerequisite: French 2 or equivalent. Students will advance their understanding of Francophone cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.
110(2110) Modern French Literature in Translation (3)
Prerequisite: Sophomore standing. Reading and discussion
of selected works in French literature from modern period,
in English translation. No credit toward major in French.

111(2111) Francophone Culture (3)
Prerequisites: French 2 or equivalent and permission of
instructor. Analyses and discussions of cultural issues in
the French-speaking world through the critical reading of
representative texts.

115A, (2115a)115b(2115b), 115C(2115c ) Intensive
French (15)
Prerequisites: Aptitude test and permission of department.
An intensive study of French. 115a(2115a), 115b(2115b),
115c(2115c) are co-requisites and must be taken
concurrently. All three sections must be completed with a
grade of C- or better in each section to satisfy the foreign
language requirement of the College of Arts and Sciences.

150(2150) European Literature in Translation: Special
Topics (3)
Major figures, works, or movements in the literature of
Europe and their relevance to our own age. The
department announces topic in advance. Does not count
toward major in French.

160(2160) French Phonetics (3)
Prerequisite: French 101(2101) or consent of instructor.
An analytic and practical study of French pronunciation.
Emphasis is placed upon the articulation and practice of
temporary French sounds.

170(2170) Composition and Conversation (3), [C, H]
Prerequisite: French 101(2101) or equivalent. Emphasis
will be placed on the development of speaking and writing
skills in French.

180(2180) Readings in French (3) , [C, H]
Prerequisite: French 170(2170) or equivalent.
Development of language skills through reading and
discussion of literary texts.

190(2190) Special Readings in French (1-3)
Prerequisites: French 101(2101) and consent of the
department. Independent study on mutually acceptable
topics through readings, reports, and conferences.

200(3200) Advanced Grammar (3)
Prerequisite: French 170(2170) or equivalent. Problems in
grammatical analysis.

205(3205) Commercial French (3)
Prerequisite: French 170(2170) or equivalent. Introduction
to French business language with emphasis on technical
vocabulary and correct French usage in business affairs.

211(3211) Contemporary French Culture (3)
Prerequisite: French 180(2180) and 200(3200) or
equivalent. Aspects of contemporary French culture,
studied through a variety of authentic cultural materials
and readings of fiction and nonfiction. All readings and
class work are in French.

271(3271) Intermediate French Conversation (3)
Prerequisites: French 170(2170) or consent of department.
Emphasis will be placed upon the further development of
oral skills in French.

280(3280) French Literature I: Middle Ages to
Eighteenth Century (3)
Prerequisite: French 180(2180) and 200(3200) or
equivalent. Designed to acquaint the student with the
development of French literature from the Middle Ages to
the eighteenth century. Critical reading of representative
texts.

281(3281) French Literature II: Nineteenth and
Twentieth Centuries (3)
Prerequisite: French 180(2180) and 200(3200) or
equivalent. Designed to acquaint the student with the
development of French literature from the nineteenth
century to the present. Critical reading of representative
texts.

290(3290) Special Readings (1-3)
Prerequisite: Consent of department. Independent study
through readings, reports, and conferences.

300(4300) Syntax and Stylistics (3)
Prerequisite: French 200(3200) or equivalent. Advanced
theoretical and practical study of modern French syntax.
Analysis of French prose style.

311(4311) Special Topics in French Culture (3)
Prerequisite: Junior standing or French 280(3280) or
281(3281) for French majors. Selected topics in French
culture. May be taught in English or French. If taught in
English, French majors will do course assignments in
French. This course may be repeated for credit.

331(4331) Medieval and Renaissance Literature (3)
Prerequisite: French 280(3280) or 281(3281). A study of
the development of French literature from the Middle Ages
to the end of the sixteenth century. Texts for reading and
discussion will include medieval romances, lyric poetry,
and works of humanist philosophy.

341(4341) Seventeenth-Century French Theater and
Poetry (3)
Prerequisite: French 280(3280) or 281(3281). Critical
reading and analysis of French Classical Age theater and
poetry, including works by Corneille, Moliere, Racine, and
La Fontaine.
342(4342) Seventeenth-Century French Prose (3)
Prerequisite: French 280(3280) or 281(3281). A study of moralists and social commentators in the age of Louis XIV, with critical reading and analysis of texts by Pascal, La Rochefoucauld, and others.

353(4353) Eighteenth-Century French Literature (3)
Prerequisite: French 280(3280) or 281(3281). The philosophic movement. Selected readings of the eighteenth century, including Montesquieu, Voltaire, Diderot, and Rousseau.

354(4354) Eighteenth-Century French Theater and Novel (3)
Prerequisite: French 280(3280) or 281(3281). Critical reading and discussion of representative novels and plays of the eighteenth century.

362(4362) Nineteenth-Century French Novel (3)
Prerequisite: French 280(3280) or 281(3281). Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism.

365(4365) Modern French Poetry (3)
Prerequisite: French 280(3280) or 281(3281). A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets.

371(4371) Twentieth-Century French Novel (3)
Prerequisite: French 280(3280) or 281(3281). A study of selected works by the principal novelists of the modern period.

375(4375) Modern French Theater (3)
Prerequisite: French 280(3280) or 281(3281). A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists.

390(4390) Special Readings (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399(4399) French Seminar (3)
Prerequisite: French 280(3280) or 281(3281). Specialized topic in French literature. Subject to be announced by instructor in charge of seminar.

400(5400) Contemporary French Thought (3)
Prerequisite: B.A. or permission of instructor. Analyses and discussion of contemporary cultural French issues through a representative sample of journals and pamphlets. In French.

German

001(1001) German I (5)
Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002(1002) German II (5)
Prerequisite: German I or equivalent. Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

101(2101) Intermediate German Language and Culture (3)
Prerequisite: German 2 or equivalent. Students will advance their understanding of German-speaking cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

110(2110) Masterpieces of German Literature in Translation (3)
Prerequisite: Sophomore standing. Representative readings in German literature from the beginning to the present. Emphasis to be placed upon German literature in the general context of European culture. No credit toward minor in German.

115A(2115a), 115B(2115b), 115C(2115c) Intensive German (15)
Prerequisites: Aptitude test and permission of department. An intensive study of German assuming no previous knowledge of German. 115a(2115a), 115b(2115b), 115c(2115c) are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

150(2150) European Literature in Translation: Special Topics (3)
Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic announced in advance by the department. Does not count toward major in German.

170(2170) Composition and Conversation (3) [C, H]
Prerequisite: German 101(2101) or equivalent. Emphasis will be placed on the development of speaking and writing skills in German.

180(2180) Readings in German (3) [C, H]
Prerequisite: German 170(2170) or equivalent. May be taken concurrently. Further development of language skills through readings and discussions of literary texts.

190(2190) Special Readings (1-3)
Prerequisites: German 101(2101) and consent of department. Independent study on mutually acceptable topics through readings, reports, and conferences.
201(3201) Masterpieces of German Literature (3)
Prerequisite: Two years of college German or equivalent. Introduction to German literature. Readings and critical analysis of selected works of German literature.

202(3202) The German Novelle and Drama (3)
Prerequisite: German 201(3201) or equivalent. Reading and critical analysis of selected German Novellen and dramas.

208(3208) Intermediate Composition and Conversation (2)
Prerequisite: German 170(2170) or equivalent. Emphasis on speaking and writing German.

210(3210) German Culture and Civilization (3)
Prerequisite: German 180(2180) or equivalent. A survey of the development of German culture and civilization. All reading and class work in German.

290(3290) Special Readings: German (1-3)
Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

308(4308) Advanced Composition and Conversation (3)
Prerequisite: German 208(3208) or equivalent. Continuation of German 208(3208). Designed to develop accuracy and fluency of expression in German.

311(4311) Special Topics in German Culture (3)
Prerequisites: At least one 200-level German course and/or consent of instructor. Discussion of selected topics of German current events. This course may be repeated for credit.

315(4315) German Classicism and Romanticism (3)
Prerequisites: German 201(3201) and one other 200-level course in German. Representative writers from the classical and romantic periods of German literature, including works by Lessing, Goethe, Kleist, and E.T.A. Hoffmann.

320(4320) German Realism and Naturalism (3)
Prerequisites: German 201(3201) and one other 200-level course in German. Representative writers of realism and naturalism in German literature, including works of Grillparzer, Hebbel, Stifter, Keller, and Hauptmann.

345(4345) Modern German Literature (3)
Prerequisites: German 201(3201) and one other 200-level course in German. Representative works from modern German literature.

390(4390) Special Readings (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

397(4397) Survey of German Literature Part I (3)
Prerequisite: German 201(3201) or 202(3202). Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

398(4398) Survey of German Literature Part II (3)
Prerequisite: German 201(3201) or 202(3202). Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

399(4399) German Seminar (3)
Prerequisite: German 201(3201) or 202(3202). Specialized topic in German literature.

Ancient Greek

001(1001) Ancient Greek 1 (5)
Study of grammar, syntax, and vocabulary, accompanied by readings of simple prose selections.

002(1002) Ancient Greek 2 (5)
Prerequisite: Ancient Greek 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Greek 1. Readings and discussion from selected classical authors.

101(2101) Intermediate Ancient Greek Language and Culture (3)
Prerequisite: Ancient Greek 2 or equivalent. Students will advance their understanding of ancient Greek culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

151(2151) Greek and Latin in English Today (3)
(Same as Latin 151(2151).) Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

190(2190) Special Readings (1-3)
Prerequisites: Greek 101(2101) and consent of department. Independent study through readings, reports, and conferences.

Modern Greek

001(1001) Modern Greek 1 (5)
Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.
002(1002) Modern Greek II (5)
Prerequisite: Modern Greek 001(1001) or equivalent.
Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.

101(2101) Intermediate Modern Greek Language and Culture (3)
Prerequisite: Modern Greek 002(1002) or equivalent.
Students will advance their understanding of Modern Greek culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

150(2150) Modern Greek Literature in Translation (3)
This course is an exploration of significant works by major Modern Greek authors, dealing with relevant issues of Western literary traditions. Authors include Cavafy, Kazantzakis, Seferis, Solomos, Elytis.

190(2190) Special Readings (1-3)
Prerequisite: Modern Greek 101(2101) or consent of the department. Independent study through readings, reports, and conferences.

Italian

001(1001) Italian I (5)
Fundamentals of Italian grammar, pronunciation, and diction for students with no previous acquaintance with the language. One-hour laboratory per week required.

002(1002) Italian II (5)
Prerequisite: Italian I or equivalent. Continuation of grammar and conversation with introductory readings centering on Italian contributions to art, literature, and music. One-hour laboratory per week required.

101(2101) Intermediate Italian Language and Culture (3)
Prerequisite: Italian 2 or equivalent. Students will advance their understanding of Italian culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

190(2190) Special Readings (1-3)
Prerequisite: Italian 101(2101) or equivalent. Readings on literary topics mutually acceptable to student and instructor.

Japanese

001(1001) Japanese I (5)
Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese and upon the acquisition of the fundamentals of grammar and syntax.

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002(1002) Japanese II (5)
Prerequisite: Japanese I or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese. Continuation of the acquisition of the fundamentals of grammar and syntax.

101(2101) Intermediate Japanese I (5)
Prerequisite: Japanese II(1002) or equivalent. Students will advance their understanding of Japanese culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

102(2102) Intermediate Japanese II (5)
Prerequisite: Japanese 101(2101) or equivalent. Continuation of Japanese 101(2101).

190(2190) Special Readings (1-3)
Prerequisite: Japanese 102(2102) or consent of the department. Independent study through readings, reports, and conferences.

290(3290) Special Readings (1-3)
Prerequisites: Japanese 190(2190) or consent of instructor. Independent study through readings, reports and conferences.

Latin

001(1001) Latin I (5)
A study of Latin grammar, syntax, and vocabulary, accompanied by reading selections from literary texts.

002(1002) Latin II (5)
Prerequisite: Latin I or equivalent. The study of vocabulary, grammar, and syntax is continued from Latin I. Readings and discussion from selected classical authors.

101(2101) Intermediate Latin Language and Culture (3)
Prerequisite: Latin 2 or equivalent. Students will advance their understanding of Roman culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

151(2151) Greek and Latin in English Today (3)
(Same as Ancient Greek 151(2151). Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin, and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.)
190(2190) Special Readings (1-3)
Prerequisites: Latin 101(2101) and consent of department. Independent study through readings, reports, and conferences.

Spanish

001(1001) Spanish I (5)
Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002(1002) Spanish II (5)
Prerequisite: Spanish 1 or equivalent. Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

101(2101) Intermediate Spanish Language and Culture (3)
Prerequisite: Spanish 2 or equivalent. Students will advance their understanding of Hispanic cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

105(2105) Commercial Spanish (3)
Prerequisite: Spanish 2 or equivalent. Grammar review and cultivation of language skills with emphasis on technical vocabulary and correct Spanish usage in business affairs. Designed for business majors, economics majors, or anyone interested in the commercial application of Spanish. This course is the equivalent of Spanish 101(2101) and may not be taken for credit.

110(2110) Spanish Literature in Translation (3)
Prerequisite: Sophomore standing. Lectures on the literature and culture of Spain from the Middle Ages to the contemporary period. Reading and discussion of works of representative Spanish writers: Cervantes, Calderon, Galdos, Unamuno, Garcia Lorca, Buero Vallejo, and others. No credit toward major in Spanish.

115A(2115a), 115B(2115b), 115C(2115c) Intensive Spanish (15)
Prerequisites: Aptitude test and permission of department. An intensive study of Spanish assuming no previous knowledge of Spanish. 115A(2115a), 115B(2115b), 115C(2115c) are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

150(2150) European Literature in Translation: Special Topics (3)
Major figures, works, or movements in the literature of Europe and their relevance to our own age. The department announces topic in advance. Does not count toward major in Spanish.

171(2171) Spanish Conversation and Pronunciation (3) [C, H]
Prerequisite: Spanish 101(2101) or equivalent. Emphasis will be placed upon the development of oral skills in Spanish and upon the problems of Spanish pronunciation and intonation.

172(2172) Spanish Composition (3), [C, H]
Prerequisite: Spanish 101(2101) or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

180(2180) Readings in Spanish (3) [C, H]
Prerequisite: Spanish 101(2101) or equivalent. Development of language skills through reading and discussion of a variety of texts.

190(2190) Special Readings (1-3)
Prerequisites: Spanish 101(2101) and consent of department. Independent study through readings, reports, and conferences.

200(3200) Syntax of the Spanish Language (3)
Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. Study of the syntactical and morphological characteristics of the Spanish language. Designed primarily for students majoring in Spanish. May be taken concurrently with any 200-level course.

210(3210) Hispanic Culture and Civilization: Spain (3)
Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. The development of Spanish peninsular civilization from its Roman beginnings to the present.

211(3211) Hispanic Culture and Civilization: Spanish America (3)
Prerequisite: Spanish 171(2171), 172(2172), or 180(2180) (2 of the 3 courses) equivalent. The development of the cultures and civilization of the Spanish-speaking nations of the Western hemisphere.

271(3271) Advanced Spanish Conversation (3)
Prerequisite: Spanish 171(2171) or consent of department. Emphasis will be placed upon the further development of oral skills in Spanish.

280 (3280) Introduction to Hispanic Literature: Spain (3)
Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. Study of selected texts of Spanish writers from the Middle Ages to the present and
the historical, cultural, and political factors, which influence their writing. Required of Spanish majors. Spanish 180(2180) is recommended for prerequisite.

281(3281) Introduction to Hispanic Literature: Spanish America (3)
Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. Study of selected texts of Spanish-American writers from the colonial period to the present and the historical, cultural, and political factors, which influenced their writings. Required of all Spanish majors. Spanish 180(2180) is recommended for prerequisite.

290(3290) Special Readings: Spanish (1-3)
Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300(4300) Advanced Spanish Grammar (3)
Prerequisite: Spanish 200(3200) or equivalent. Advanced theoretical and practical study of the form and syntax of the Spanish language, focusing especially on sentence structure. Analysis of texts, which illustrate different linguistic levels and their values. Designed to develop accuracy and fluency of expression in Spanish.

310(4310) Spanish Literature From 1898 to 1939 (3)
Prerequisite: Spanish 280(3280). A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists.

311(4311) Special Topics in Hispanic Culture (3)
Prerequisite: Junior standing or Spanish 280(3280) or 281(3281). Selected topics in Hispanic culture taught in Spanish. This course may be repeated for credit provided that the topic is different each time.

315(4315) Spanish Literature From 1939 to the Present (3)
Prerequisite: Spanish 280(3280). A study of cultural and literary development since the Spanish Civil War. Emphasis on leading novelists and dramatists.

320(4320) Realism and Naturalism in the Nineteenth-Century Spanish Novel (3)
Prerequisite: Spanish 280(3280). A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading novelists of the epoch (Galdos, Clarín, Pardo-Bazán, Blasco-Ibáñez).

321(4321) Poetry and Drama of the Nineteenth Century (3)
Prerequisite: Spanish 280(3280). A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading poets (Espronceda, Becquer) and playwrights (Zorrilla, Duque de Rivas).

325(4325) Poetry and Drama of the Golden Age (3)
Prerequisite: Spanish 280(3280). Selected readings from the drama of Lope de Vega, Tirso de Molina, Ruiz de Alarcón, and Calderón de la Barca, and from the poetry of Garcilaso, Fray Luis de León, San Juan de la Cruz, Gongora, Lope de Vega, and Quevedo.

326(4326) Applied Linguistics in Spanish (3)
Prerequisites: Spanish 200(3200) or equivalent. Study of the general principles of linguistics applied to the learning and teaching of Spanish with special emphasis on historical linguistics. The course will focus on the development of the Spanish language with emphasis on etymological and phonological changes. Recommended for prospective teachers of Spanish.

327(4327) Spanish Dialectology (3)
Prerequisites: Spanish 200(3200) or equivalent. The course will focus on the syntactical, lexical and phonological variations of modern Spanish from a sociolinguistics perspective. Regional variations may include Castilian, Mexican, and Caribbean Spanish, Spanish of the northern Andes region and the Southern Cone, and the Spanish spoken in the United States.

330(4330) Cervantes (3)
Prerequisite: Spanish 280(3280). A study of Don Quixote in relation to the author's life and with the cultural background of the Spanish Golden Age. Independent readings on other works of Cervantes.

331(4331) Picaresque and Satirical Prose (1550-1650) (3)
Prerequisite: Spanish 280(3280). A study of Renaissance and Baroque prose in its social context. All readings and discussions are in Spanish.

335(4335) Masterpieces of Spanish Medieval and Renaissance Literature (3)
Prerequisite: Spanish 280(3280). Designed to acquaint students with the cultural background of medieval and Renaissance Spanish traditions. Critical reading and discussion of representative works of these periods: Poema del Cid, El Conde Lucanor, Libro de Buen Amor, El Romancero, La Celestina, the Picaresque novel, and Don Quixote.

340(4340) Spanish-American Literature of the Nineteenth Century (3)
Prerequisite: Spanish 281(3281). A study of the culture and literature of Spanish America in the nineteenth century with emphasis on the leading novelists and essayists of the epoch.

341(4341) Modernismo (3)
Prerequisite: Spanish 281(3281). The genesis, development, and influence of this literary movement in Spanish-American letters with emphasis on Modernista poetry and prose.
345(4345) Spanish-American Literature of the Twentieth Century (3)
Prerequisite: Spanish 281(3281). A study of the leading Spanish American poets, essayists, and novelists of this period as interpreters of contemporary man's dilemma and the Apathos--and Aethos--of their culture.

351(4351) Spanish-American Fiction in the Twentieth Century (3)
Prerequisite: Spanish 281(3281). The role of prose fiction in Spanish American literary and cultural history from World War I to the present.

360(4360) Spanish American Poetry From Modernismo to the Present (3)
Prerequisite: Spanish 281(3281). A study of poetry and its role in the literary and cultural history of Spanish-American society from Modernismo to the present.

390(4390) Special Readings (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399(4399) Seminar on Hispanic Literature (3)
Required of major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar.

400(5400) Spanish as Spoken Today (3)
Prerequisite: A.B. or permission of instructor. Contemporary Spanish, including emphasis on standard and colloquial speech: slang, proverbs, and the mass media. Some attention will be given to the influence of English on twentieth-century spoken Spanish. Study of samples; oral practice.
Department of History

Faculty

Louis Gerteis, Professor, Chairperson*
Ph.D., University of Wisconsin
Richard H. Mitchell, Curators' Professor*
Ph.D., University of Wisconsin
Jay Rounds, E. Desmond Lee Professor of Museum Studies and Community History*
Ph.D., University of California, Los Angeles
Carlos A. Schwantes, Saint Louis Mercantile Library Professor of Transportation Studies*
Ph.D., University of Michigan
Mark A. Burkholder, Professor*
Dean of College of Arts and Sciences
Ph.D., Duke University
Jerry M. Cooper, Professor Emeritus*
Ph.D., University of Wisconsin
Walter Ehrlich, Professor Emeritus*
Ph.D., Washington University
Paul Corby Finney, Professor Emeritus*
Ph.D., Harvard University
John R. Gillingham, Professor*
Ph.D., University of California; Berkeley
Steven C. Hause, Thomas Jefferson Professor*
Ph.D., Washington University
Andrew J. Hurley, Professor*
Ph.D., Harvard University
Charles P. Korr, Professor*
Ph.D., University of California; Los Angeles
William S. Malaby, Professor Emeritus*
Ph.D., Duke University
James Neal Primm, Curators' Professor Emeritus*,
Ph.D., University of Missouri-Columbia
Steven W. Rowan, Professor*
Ph.D., Harvard University
Blanche M. Touhill, Professor*, Chancellor
Ph.D., Saint Louis University
Robert M. Bliss, Associate Professor* and Dean, Pierre Laclede Honors College
Ph.D., University of Wisconsin
J. Frederick Fausz, Associate Professor*
Ph.D., William and Mary
Winston Hsieh, Associate Professor*
Ph.D., Harvard University
Adell Patton Jr., Associate Professor*
Ph.D., University of Wisconsin
Gerda W. Ray, Associate Professor*
Ph.D., University of California, Berkeley
John A. Works Jr., Associate Professor Emeritus*,
Ph.D., University of Wisconsin
Priscilla Dowden, Assistant Professor*
Ph.D., Indiana-Bloomington
Laura Westhoff, Assistant Professor*
Ph.D., Washington University
Kevin J. Fernlund, Assistant Professor
Ph.D. University of New Mexico

General Information

Degrees and Areas of Concentration The department offers work in Asian, African, European, Latin American, Middle Eastern, and United States history from ancient to modern times. At the bachelor's level, the department offers the B.A. in history, and, in cooperation with the College of Education, the B.A. in history with teacher certification and the B.S. in education with an emphasis in social studies.

At the graduate level, the department offers an M.A. in history with work in European, Latin American, East Asian, Middle Eastern, African, African-American, and United States history. The department also offers the option of an M.A. in history with a concentration in museum studies.

Departmental Honors Students majoring in history may be awarded departmental honors upon graduation if they have achieved the following: a) at least a 3.2 overall GPA; b) at least a 3.5 GPA for all hours attempted in history courses; and c) an outstanding research paper in the Senior Seminar as certified by the faculty member responsible for directing it.

Undergraduate Studies

General Education Requirements History majors must meet the university and college general education requirements. History courses that will satisfy the university's state requirement are:

History 3(1001), American Civilization
History 4(1062), American Civilization
History 6(1063), African-American History
History 7(1004), The History of Women in the United States
History 207(2007), The History of Missouri
History 302(3002), United States History: Revolution and the New Nation, 1763 to 1815
History 311(3041), Topics in American Constitutional History

Students may take any language that fulfills the college's foreign language requirement. Majors may not take required history courses on a satisfactory/unsatisfactory
basis. Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

**Degree Requirements**

**Bachelor of Arts in History** Students are encouraged to take programs which combine breadth of coverage with intensity. Two of the following are required:

- **Courses 1 to 199.**
  - History 3(1001), American Civilization to 1865
  - History 4(1002), American Civilization 1865 to present
  - History 6(1003), African-American History
  - History 7(1004), The History of Women in the United States

- Plus two of the following:
  - History 30(1030), The Ancient World
  - History 31(1031), Topics in European Civilization: The Emergence of Western Europe to 1715
  - History 32(1032), Topics in European Civilization: 1715 to the Present

- Plus:
  - Non-Euro/American survey: One 3-hour course

- **Courses 201 to 399:**
  - One course in United States history
  - One course in European history
  - One course in Non-Euro-American history
  - History 390(4001), Special Readings (one credit hour)
  - History 393(4004), Senior Seminar

- Three additional 200 or 300 level courses

**Other**

Majors must complete at least 39, but not more than 45, hours in history with no grade below C in major. Courses 255 and 256 do not count toward major. After fulfilling the general education and specific major degree requirements, students are to take the remaining 30 hours required to complete the B.A. or B.S. degrees from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following are or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics and astronomy/geology, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. Undergraduate majors must complete a minimum of 15 hours of 300(3000) level History courses including History 390(4001) (1 credit hour) and History 393(4004) (5 credit hours) in residence.

**Minor in History**

Students may minor in history by taking 18 hours of history courses as follows:

1) One course numbered 1-199 in each of the following areas: United States history, European history, and Non-Euro-American history

2) One course numbered 201-399, except 255 and 256 in each of the following areas: United States history, European history, and Non-Euro-American history

No course in which a grade below a C is received shall count toward a minor.

**Related Areas**

Since history is a broad discipline, it can be combined with serious work in any other discipline. Courses in the humanities, social sciences, languages, and the natural sciences may complement the history program. Students should consult with faculty advisers to select courses suited to their individual interests.

**Bachelor of Arts with Teacher Certification** For information, refer to the College of Education section in this Bulletin.

**Bachelor of Science in Education: Emphasis in Social Studies** The history requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this Bulletin.

**Graduate Studies**

**Degree Requirements**

The Department of History offers two options for graduate study, the Master of Arts in History and the Master of Arts in History with Concentration in Museum Studies. These options are described below in separate sections.

**Master of Arts in History**

The Department of History offers students two ways of completing the master of arts degree: one path of study emphasizes depth of knowledge and research competence acquired through writing a substantial master's thesis; the second emphasizes breadth of historical knowledge acquired through graduate course work and the writing of research papers. Both paths include a core of substantive courses in history (see Core) to which the student adds either a thesis (see Thesis) or additional research papers and seminars (see Research Papers).

The M.A. program offers all students intermediate training preparatory to doctoral programs, advanced training leading to teaching and other careers, and disciplined advanced work.
The department offers study in European history, United States history, East Asian history, Latin American history, African history, and Middle Eastern history. Within these areas of study, students may specialize in the following fields:

Europe to 1715
Europe since 1715
Latin America
United States to 1865
United States since 1865
China and Japan since 1800
Africa and the Middle East
Africa and African American

Admission Requirements
Applicants must meet several departmental admission requirements in addition to the general criteria of the Graduate School. The applicant's undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, only students with a 3.2 grade point average in their undergraduate major are admitted; most successful applicants have higher grades.

Applicants must submit three letters of recommendation, preferably from former teachers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Applicants for graduate teaching assistantships must take the GRE Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, and the sample of written work.

Core
All candidates for the M.A. degree in history must complete a core of 26 hours of course work (excluding thesis credit), with no more than nine hours of history and related fields at the 300 level (except History 393(4004). This 26-hour core must include seven courses at 3 credit hours each (21 hours in all), and one 5-credit-hour writing seminar consisting of a 2-credit-hour research paper supplement to a 3-credit-hour, 400 level history readings course.

To earn the 26-hour core, candidates select three fields of study, the first with a minimum of four courses (each at 3 credit hours or more), the second and third with a minimum of two courses each (at 3 credit hours or more). Each field must include at least one 400-level course.

In addition to this core, each candidate must select one of the two following degree options:

1) Thesis Option—32 hours total
In addition to the core, the candidate choosing this option must enroll for 6 hours of thesis credit and submit an acceptable thesis. The thesis is based on original research in primary sources. Normally, theses do not exceed 100 pages of text. Candidates receive a grade for the thesis upon its approval by an advisory committee. The committee consists of professors selected by the candidate after consultation with the major professor. One member of the committee must be outside the candidate's general area of study, and one may be outside the history department.

The advisory committee conducts an oral examination on the thesis during the candidate's last semester of residence.

The committee decides whether the candidate shall pass, fail, or fail with the option to repeat the oral examination at a later date. Students may not take the oral examination more than twice. The second examination must be held no less than one and no more than two semesters following the date of the first examination. Summer session may be counted as a semester under this procedure, but students should be aware of the difficulties involved in assembling faculty committees during the summer.

Thesis candidates must demonstrate competence in one foreign language or in quantitative methods as applied to historical study. Candidates shall demonstrate foreign language competence by translating, with the use of a dictionary, 500 words in one hour. A member of the history faculty will conduct this examination. That faculty member will choose the test for translation. Candidates shall demonstrate quantitative methods competence by satisfactory completion of either Psychological Statistics 201(2201) or Sociological Statistics 220(3220), or their equivalent.

2) Research Paper Option-36 hours total
To complete this option, the candidate must complete two 5-credit-hour seminars (each consisting of a 400 level reading seminar plus 2 credit hours of supplementary work on a substantial research paper), in addition to the core. The candidate may choose a fourth field in addition to the three already represented in the core to complete this option.

Master of Arts in History (Museum Studies) and Graduate Certificate in Museum Studies
These options are intended for students planning to pursue professional careers in museums. In addition to the core requirement of substantive courses in history, the Museum Studies program includes intensive training in the theory and practice of museology. This innovative program is a collaboration between the Department of History, Department of Anthropology, and Department of Art and Art History, and the Missouri Historical Society. It is taught by a combination of professors and practicing professionals from St. Louis-area museums. Recognizing that the museums field is in a period of rapid change, the program is designed to train students for leadership in the emergence of a new paradigm of museology that focuses on relationships between museums and the people and communities that they serve.
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For most students this will be a terminal master of arts degree, fully preparing graduates for immediate entry into museum careers in a variety of positions. While the core requirement focuses on history studies, the museological training is applicable to employment in any type of museum.

Admission Requirements
Applicants wishing to enter the Museum Studies concentration must apply specifically for that concentration; successful application for the general M.A. program in history does not automatically provide access to the museum studies program. Applications for the museum studies concentration will be accepted only for the fall semester. Because of the prescribed sequence of course work, no midyear entry into the program will be allowed.

In addition to the general criteria of the Graduate School, applicants for the Museum Studies concentration must meet several additional criteria of the Department of History and the museum studies program. Applicants' undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, the history department admits only students with a 3.2 grade point average in their undergraduate major; most successful applicants have higher grades. Applicants must submit three letters of recommendation, preferably from former teachers and/or employers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Besides these departmental requirements, applicants must submit the Museum Studies Supplemental Application. The supplemental application includes a statement of intent for pursuit of a museum career.

The departmental Graduate Committee and the director of the museum studies program will base their admissions decisions upon the undergraduate transcript, the letters of recommendation, the sample of written work, and the GRE scores as evidence of ability to meet the academic demands of the training program, and the supplemental application as evidence of the will and ability to pursue a successful career in museums.

Applications for the museum studies program must be received by the university no later than March 1.

Museum Studies Curriculum—39 hours total
All candidates for the M.A. in History with a Concentration in Museum Studies must complete History 434(6134), 435(6135), 436(6136), and 437(6137). (These courses are cross listed under the same numbers in the Anthropology Department and the Art and Art History Department. Students may enroll through the department of their choice.) All candidates must also complete Art and Art History 488(5588) (Museum Education and Visitor Research) and Anthropology 439(6139) (Practicum in Exhibit and Program Development). Together, these courses provide a solid foundation in the theory and history of museology and in practical skills for museum work. As a final requirement, candidates must complete History (or Anthropology or Art and Art History) 438(6138). This exit project will be the capstone demonstration of competence in museum studies. The specific nature of this demonstration will be customized to the interests and career aspirations of each student. It may take the form of a traditional thesis, an exhibit project, or some other appropriate form, as approved in advance by the candidate’s advisory committee.

In addition to these requirements, all candidates must complete 15 hours of elective history course work, with no more than 6 hours of history at the 300 level (except History 393(4004)). Museum Studies students will take courses distributed in any proportion between the fields of "United States to 1865" and "United States Since 1865." Exceptions to this requirement (e.g., selections of courses from another field, such as European or African history) must be approved in advance by both the director of the Museum Studies Program and the graduate coordinator of the History Department.

Graduate Certificate in Museum Studies (19 hours)
A very limited number of slots may be available for students who wish to pursue only the Graduate Certificate in Museum Studies without seeking the M.A. in History. In most cases, these will be students who already hold an advanced degree and are currently working (or planning to work) in a museum but who have had no formal training in museum studies. Candidates for the Graduate Certificate must complete History 435(6135), 436(6136), 437(6137), and 438(6138), Art and Art History 488(5588), and Anthropology 439(6139). Contact the director of the Museum Studies Program for availability of slots in this option and for special application procedures.

Career Outlook for B. A. and M. A. graduates
An important rationale for the discipline of history is its centrality to the university curriculum and to the life experience. The ability to put events or developments into the context of the past is useful as well as pleasurable. Responses to a questionnaire sent to history graduates have indicated that alumni in a wide variety of fields are as conscious of and appreciative of their training in history as those who have chosen it as a profession. Men and women in business, lawyers, bankers, librarians, and foreign service officers have all found it relevant to their careers. Study and research in history sharpens organizational and writing skills important to success in business and the legal profession. A growing interest in local history has created employment opportunities in museum, archival, and preservation work.
Career Outlook for M. A. with Concentration in Museum Studies

There are more than 8,000 museums in the United States. History museums constitute more than half of that total, and employ approximately one-third of the 150,000 paid staff working in U. S. museums. While job requirements vary widely among individual museums and specific professional roles, the M.A. degree offered by this program qualifies graduates for a wide range of career opportunities, in history museums and in other types of museums as well. The Museum Studies Program provides students with placement assistance and counseling and with access to a wide range of information on career opportunities in the field, and program faculty use their extensive networks in the field to help identify opportunities and to place students.
Course Descriptions

Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin 3(1001), 4(1002), 6(1003), 7(1004), 30(1030), 31(1031), 32(1032), 61(1041), 62(1042), 71(1051), 72(1052), 81(1061) 82(1062), 83(1063), 84(1064) 201(3032), 203(3042), 205(2800), 207(2007), 208(2008), 210(3051), 211(3062), 212(3052), 219(2219), 242(3091), 245(3232), 300(3000), 301(1001), 302(3002), 303(3003), 304(3004), 305(3005), 306(3006), 311(3041), 312(3012), 313(3044), 314(3045), 315(3031), 316(3021), 317(3022), 318(3053), 319(3050), 320(3043), 321(3071), 322(3072), 324(3073), 332(3081), 335(3082), 336(3083), 337(3084), 341(3085), 342(3086), 348(3092), 349(3093), 351(3094), 352(3095), 361(3101), 362(3102), 371(3201), 372(3202), 380(3301), 381(3302), 385(3303), 386(3304), 390(4001), 393(4004).

The following courses fulfill the Cultural Diversity [CD] requirement: 61(1041), 62(1042), 71(1051), 72(1052), 81(1061), 82(1062), 83(1063), 84(1064), 201(3032), 262(3103), 361(3101), 362(3102), 371(3201), 372(3202), 380(3301), 381(3302), 385(3303), 386(3304).

The following courses fulfill the state [ST] requirement: 3(1001), 4(1002), 6(1003), 7(1004).

3(1001) American Civilization (3) [ST,SS,C]
Evolution of the cultural tradition of the Americas from the earliest times to the mid-nineteenth century, with emphasis on the relationship of ideas and institutions to the historical background.

4(1002) American Civilization (3) [ST,C,SS]
Continuation of History 3(1001) to the present. Course fulfills the state requirement. History 3 (1001) or History 4 (1002) may be taken separately.

6(1003) African-American History (3) [ST,V,SS,CD]
A survey of African-American history from the beginning of the European slave trade to the modern Civil Rights era.

7(1004) The History of Women in the United States (3) [ST,C,SS]
A survey of women's history from the colonial era to the present.

30(1030) The Ancient World (3) [C,SS]
Survey of ancient history in the near east, the Aegean, the central and western Mediterranean. Themes: politics and economy, war and society, culture, including art, literature, technology, religion and philosophy. The chronological span is from the neolithic period (7500-3000 B.C.) in the

near east to the fall of the Roman Empire in the fifth century A.D.

31(1031) Topics in European Civilization: Emergence of Western Europe to 1715 (3) [C,SS]
Lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

32(1032) Topics in European Civilization: 1715 to the Present (3) [C,SS]
Lectures and discussions on the development of Western European society and tradition from 1715 to the present. Either History 31(1031) or History 32(1032) may be taken separately.

61(1041) East Asian Civilization (3) [CS,SS]
The development of Asian civilization from earliest times to the Manchu conquest.

62(1042) East Asian Civilization (3) [CS,SS]
Continuation of History 61 with emphasis on the Asian response to the Western incursion. Either History 61(1041) or History 62(1042) may be taken separately.

71(1051) Latin American Civilization (3) [CD,C,CS]
A survey of selected topics important in the development of Latin America from pre-Columbian times to the twentieth century.

72(1052) Mexican Civilization (3) [C,SS,CD]
This course will focus on the history and culture of Mexico from the Aztecs to the mid-twentieth century. Among the topics to be covered are: the Aztecs, Cortez and the Conquest of Mexico, colonial institutions and culture, the obtaining of political independence, disorder and dictatorship in the nineteenth century, the Mexican Revolution, contemporary Mexico.

81(1061) African Civilization to 1800 (3) [C,SS,CD]
Introduction to African cultural history from the emergence of early man to the abolition of the Atlantic slave trade.

82(1062) African Civilization Since 1800 (3) [C,SS,CD]
Survey of African initiative and response in the period spanning the loss and reassertion of independence. History 81(1061) or History 82(1062) may be taken separately.
83(1063) The African Diaspora to 1800 (3) [C,SS,CD]
An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic, Mediterranean, and Indian Ocean areas from the earliest times to 1800. The course will survey the political, social, and religious foundations of the African continent and include a comparative analysis of other diasporas. Special attention will be given to themes and issues associated with: slavery, creolization, multiracialism, transformation from heterogeneous crowds to new homogeneous communities, and cultural linkages between Africans and their descendants in the Atlantic Communities.

84(1064) The African Diaspora Since 1800 (3) [C,SS, CD]
An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic world from 1800 to contemporary times. The course will include a comparative analysis of other diaspora groups. Special attention will be given to themes and issues associated with: slavery, multiracialism, cultural clocks, the social transformation from heterogeneous crowds to the formation of new homogeneous communities, the new elite, and the modern cultural linkages between Africans and their descendants in the Atlantic Communities.

150(2300) The People's Century, Part I (3)
The course provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their firsthand experiences.

200(2000) Selected Topics in History (1-3)
Prerequisites: Consent of instructor. May be repeated for credit with consent of instructor.

201(3032) History of Women in Comparative Cultures (3) [CD]
Prerequisite: Junior standing or consent of the instructor. An introduction to the historical development of women's status in a variety of cultures and periods within the areas of Africa, Europe, the Far East, Latin America, and the Middle East. The course analyzes women's political, economic, familial, and sexual roles and the economic, demographic, ideological, and political forces which promoted change and continuity in those roles.

203(3042) U.S. Social Movements in the 20th Century
Prerequisite: Junior standing or the consent of instructor. This course challenges students to analyze the historical sources, objectives, and techniques of social movements initiated by racial minorities, women, gays and lesbians, evangelical Christians, and many others.

205(2800) History of American Economic Development (3) [MI]
Prerequisites: Econ 40(1000) or 51(1001) or consent of instructor. (Same as Econ 205(2800).) Uses economic concepts to explain historical developments in the American economy, beginning with hunter-gatherers who crossed the Bering land bridge around 12,000 B.C. Main topics include Native American economies, European exploration and conquest, the colonial economies, indentured servitude, the American Revolution, the U.S. Constitution, westward expansion, transportation, the Industrial Revolution, state banking and free banking, slavery, the Civil War, post-bellum agriculture, the rise of big business and antitrust, banking panics, the Federal Reserve Act, the First and Second World Wars, the New Deal, and the growth of government in postwar economy.

207(2007) History of Missouri (3) [ST]
Prerequisite: Junior standing or the consent of the instructor. Lecture and readings. Seventeenth-century Spanish and French explorations and interaction with the Indians; settlement and organization of the Louisiana territory; lead mining and the fur trade; the Louisiana Purchase; the Missouri territory; the struggle for statehood and slavery; antebellum politics; banking and internal improvements; westward expansion; Civil War and reconstruction; postwar agrarian politics, industrialization; Irish, German, and southern European immigration; the Progressive reforms—political and economic change; and twentieth-century social changes and political developments.

208(2008) The History of St. Louis (3)
Prerequisite: Junior standing or consent of the instructor. This course will provide an overview of the history of the St. Louis metropolitan region from its founding in 1764 to the present. Main topics will include the St. Louis region before the Europeans, forces leading to the founding of the city, St. Louis as an "urban frontier," the Age of Steam on water and rail, the questions of slavery and the Civil War, St. Louis in the Gilded Age, the World's Fair, early efforts at city planning, impact of the automobile, St. Louis during the Depression and World War II, post war suburbanization, urban renewal St. Louis-style, school desegregation, the Schoemehl years, the emergence of St. Louis "Edge Cities," and St. Louis 2004.

210(3051) African-American History: From Slavery to Civil Rights (3)
Prerequisite: Consent of the instructor. This course examines the impact of region, gender, and class on black activism by focusing on topics such as remembering slavery and emancipation, institution and community building during segregation, changing strategies in politics and protest, and the emergence of the direct action civil rights movement.
211(3062) Sport and Society (3)
Prerequisite: Junior standing or the consent of the instructor. This course looks at sport in Western society as a form of social history. The first section of the course covers from early Olympic games through the end of the eighteenth century. The major part of the course deals with the role of organized sport in Europe and the United States since 1840, the political and economic aspects of sports, and the growth of international sports.

212(3052) African-American History: From Civil Rights to Black Power (3)
Prerequisite: Consent of instructor. A seminar on the activities, ideas, movement centers, and personalities that created the Civil Rights and Black Power movements in the U.S. from the 1950s through the 1970s. Some familiarity with the broad contours of U.S. history is presupposed. Special attention will be devoted to the roles of the African-American masses, college students, and women, and to the points of conflict cooperation, and intersection between African-America and the larger American society.

219(2219) U.S. Labor History (3)
Examines the history of work and the working class in the United States. It focuses on the transformation of the workplace, the evolution of working class consciousness, the development of the labor movement, the role of race, gender and ethnicity in uniting or dividing the working class, and the nature of labor's relations with other social groups in the political arena. Particular emphasis on the political, and economic conditions and strategies of periods when working class power was growing.

242(3091) European Social History Since 1715
Prerequisite: Junior standing or the consent of the instructor. This is a survey course examining the life of ordinary people in modern Europe. It begins with an examination of economic conditions and the social classes that derive from them. Most of the course explores the conditions of every day life. Topics include demography, marriage and the family, sexuality, children and old age, the roles of women, disease and death, diet, drink and drugs, clothing and housing, leisure and entertainment, and popular attitudes.

245(3322) Advanced History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)
Prerequisites: At least 3 biology courses beyond the introductory level or permission of instructor. Topics include principles of ethobiological classification, Aristotle and Theophrastus and their incorporation in western science, and natural history in the Renaissance. Focuses on breakup of natural history after 1750; integration of natural history and botany in popular culture and its consequences for professional disciplines; relationships between new botany and classification botany, among botany, zoology and biology at the end of 19th century, and between field and laboratory science; and conflict between systematic schools in later 20th century. Three hours of lecture per week. Paper on topic of student's choice required. Credit not granted for more than one of Biology 362(3322), History 245(3322), and Biology 462(5322).

255(4011) Curriculum and Methods of Teaching Secondary School History and Social Studies (3)
(Same as Sec Ed 255(3255).) Prerequisite: Junior standing and Sec Ed 213(3213). A study of the scope and sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is directed also toward learning the techniques and research tools of the scholar in the fields of history and social studies. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence.

256(4012) Social Studies Teaching Intern Seminar (1)
(Same as Sec Ed 256(3256).) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of educational philosophy, social studies curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, Sec Ed 290(3290).

257(4013) United States History for the Secondary Classroom (3)
(Same as Sec Ed 257(3257).) Adapts the themes and subject matter of American history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for the Social Studies Certification.

258(4014) World History for the Secondary School Classroom (3)
(Same as Secondary Education 258(3258).) Adapts the themes and subject matter of World history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for the Social Studies Certification.
262(3103) Modern History of the Pacific Rim [CD]
Prerequisite: Junior standing or the consent of the instructor. A survey course on the 20th-century history of the most rapid growth of a broad economic region in East and Southeast Asia as well as their interactions with America. For students who need to understand the political and economic dynamics of the countries around the Pacific Basin and the historical roots of various problems.

300(3000) Selected Topics in History (3)
Prerequisite: Junior standing or consent of instructor. Special topics in history. The course may be repeated for credit with the consent of the instructor.

301(3001) United States History: Colonial America to 1763 (3)
Prerequisite: Junior standing or consent of instructor. English background of colonization; rise of distinctive New England and Southern societies; English colonial policy to the Peace of Paris.

302(3002) United States History: Revolution and the New Nation, 1763 to 1815 (3) [ST]
Prerequisite: Junior standing or consent of the instructor. The American Revolution and the creation of the new nation. The young republic and the development of the first American party system.

303(3003) United States History: Nationalism and Sectionalism, 1815 to 1860 (3)
Prerequisite: Junior standing or consent of the instructor. The Era of Good Feelings, the Age of Jackson, manifest destiny, the political and social developments of the antebellum period relating to the growth of sectionalism and the developing antislavery crusade.

304(3004) United States History: 1860-1900 (3)
Prerequisite: Junior standing or consent of the instructor. The Civil War, Reconstruction, industrial and urban expansion and their impact on American life.

305(3005) United States History: 1900-1940 (3)
Prerequisite: Junior standing or consent of the instructor. The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations.

306(3006) United States History: 1940 to the Present (3)
Prerequisite: Junior standing or consent of instructor. The economic, political, and social developments and crises of postindustrial United States. The role of foreign affairs in American life.

310(3011) The American West: Gateways and Corridors (3)
Prerequisite: Junior standing or consent of instructor. An exploration of the history of the American West from the 1750s to present, with emphasis on the role of transportation. Urban gateways such as St. Louis and San Francisco and transportation corridors such as the Missouri River and the Santa Fe and Oregon trails will be of particular importance.

311(3041) Topics in American Constitutional History (3) [ST]
Prerequisite: Junior standing or consent of instructor. Origins and development of principal institutions and ideas of American constitutional system; role of Constitution and Supreme Court in growth of the nation; important Supreme Court decisions; great American jurists and their impact on the law; historical background to current constitutional issues.

312(3012) The Indian in American History, 1600-1900 (3)
Prerequisite: Junior standing or the consent of instructor. Investigates Native American encounters with non-Indian peoples between 1600 and 1900, analyzing how traditional Indian cultures changed to meet a variety of new challenges introduced to North America by Europeans and Africans. The approach will be interdisciplinary and ethnohistorical with emphasis placed on case studies of important native nations at key turning points in their history.

313(3044) American Military History to 1900 (3)
Prerequisite: Junior standing or consent of instructor. A study of American military institutions from colonial times to 1900. The impact of the military upon major aspects of American life. The place of war in American history to 1900.

314(3045) American Foreign and Military Affairs, 1900-Present (3)
Prerequisite: Junior standing or consent of instructor. A survey of American foreign and military affairs since 1900, with particular emphasis on the major wars during the period and the Cold War Era. Consideration of the nation's changing place in a changing world.

315(3031) History of Women in the United States (3)
Prerequisite: Junior standing or consent of the instructor. Development of women's economic, political, and social role in the United States with special emphasis on the nineteenth and twentieth centuries; women and work; women and the family; women and reform movements; women and education; feminist theorists and activists; images of women.

316(3021) U.S. Urban History (3)
Prerequisite: Junior standing or consent of the instructor. The physical and spatial growth of U.S. cities from colonial times to the present with special attention to the impact of industrialization, public policy, and advances in transportation technology.
317(3022) Comparative Urban History (3)
Prerequisite: Junior standing or consent of the instructor. Reviews and analyzes the development of cities from a North American perspective focusing on the 19th and 20th centuries. Attention will be given to the issue of why North American cities appear and function differently from urban areas on other continents, including Europe, Asia, and South America.

318(3053) African-American Women's History (3)
Prerequisite: Junior standing or consent of the instructor. This course introduces some of the themes of African-American women's history. By examining the impact of region, gender, and class on African-American women's experiences across time, the course highlights black women's applied and theoretical contributions to feminist politics and activism as well as the black struggle for freedom and equality. Topics covered include: slavery and emancipation, institution and community building, the family and work, electoral politics and direct action protest, civil rights, and contemporary issues.

319(3050) Topics in African-American History (3)
Prerequisite: Junior standing or consent of instructor. Will explore a salient topic in African-American history. Such historical documents as personal narratives, letters, government documents, and autobiographies as well as monographs, articles, and other secondary sources will be used to explore topics such as slavery and slave culture in the United States; blacks and America's wars; the African-American intellectual tradition; or, African-Americans and the Great Migration.

320(3043) History of Crime and Justice (3)
Prerequisite: Junior standing or consent of the instructor. (Same as CCI 330(3043).) The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison and the juvenile court.

321(3071) Medieval England (3)
Prerequisite: Junior standing or consent of the instructor. A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of the institutional, social, and legal evolution of the realm of England. English development will be viewed in its European context.

322(3072) York and Tudor England (3)
Prerequisite: Junior standing or consent of instructor. The turmoil over the monarchy and consolidation of the Tudor dynasty. A study of the English Reformation and the political and economic changes of the sixteenth century.

323(3073) Stuart England (3)
Prerequisite: Junior standing or consent of instructor. A study of the English revolutions, religious controversy, and the rise of parliamentary power; the social and economic changes of the century; and the role played by England in the European struggles of the period.

332(3081) Rome: The Republic and Empire (3)
Prerequisite: Junior standing or consent of the instructor. A survey of the development of Roman political and cultural life from the legendary founding of the city in central Italy in 753 to the death of the Emperor Justinian in 565 A.D.

335(3082) History of the Church: The Middle Ages (3)
Prerequisite: Junior standing or consent of the instructor. A topical study of the Christian church in Europe as an autonomous and central institution from the sixth century through the reformation crisis. Special attention will be given to the relations between the church and the secular world, and the contributions of medieval Christianity to the development of European institutions and ideas.

336(3083) Europe in Early Middle Ages (3)
Prerequisite: Junior standing or consent of the instructor. The end of the Roman Empire as a universal entity; the successor states of the Mediterranean and Northern Europe; the emergence of a Western Christendom under the Franks; the development of feudal states; the Gregorian reforms; the Crusades; the revival of education and learning in the twelfth century.

337(3084) Europe in the High and Late Middle Ages (3)
Prerequisite: Junior standing or consent of the instructor. Medieval society at its political, economic, and intellectual zenith; the crisis of the later Middle Ages; the papal schism and the development of national particular churches within Catholicism; and the rise of estate institutions.

341(3085) The Age of the Renaissance (3)
Prerequisite: Junior standing or consent of the instructor. The Italian and Northern Renaissance as a distinct age; political, socioeconomic, intellectual, religious, and artistic movements attending the decline of medieval society; and the transition to the early modern period.

342(3086) The Age of Reformation (3)
Prerequisite: Junior standing or consent of the instructor. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

348(3092) Europe 1900-1950: War and Upheaval (3)
Prerequisite: Junior standing or consent of the instructor. The impact of World Wars I and II and the search for equilibrium.

349(3093) Europe, 1950-Present: Peace and Prosperity(3)
Prerequisite: Junior standing or consent of instructor. A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.
351(3094) Contemporary France: Since 1870 (3)
Prerequisite: Junior standing or consent of instructor. The history of Republican France. Topics discussed include the creation of a liberal-democratic government; the scandals and crises of the Third Republic; the Dreyfus affair; the rise of imperialism, socialism, and feminism; the impact of World War I, the popular front, defeat, collaboration, and resistance during World War II; and the reestablishment of France as an important power.

352(3095) Germany in the Modern Age (3)
Prerequisite: Junior standing or consent of instructor. The course deals with whether or not the Third Reich should be considered the culmination of German history. Problems of national unification, economic development, representative government, and cultural modernism will be considered.

361(3101) Modern Japan: 1850 to Present (3) [CD]
Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern Japan.

362(3102) Modern China: 1800 to Present (3) [CD]
Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern China.

371(3201) History of Latin America: To 1808 (3) [CD]
Prerequisite: Junior standing or consent of instructor. Latin America from the pre-Columbian civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies.

372(3202) History of Latin America: Since 1808 (3) [CD]
Prerequisite: Junior standing or consent of instructor. Emphasis on the attainment of political independence and social, political, and economic developments of the nineteenth and twentieth centuries in Latin America.

380(3301) West Africa to 1800 (3) [CD]
Prerequisite: Junior standing or consent of instructor. This course discusses both the history and historiography of Africa's most populous and ethnically diverse region. Beginning with the prehistoric era prior to the desiccation of the Sahara, the course explores climatology and population movement, changes in food production and technology, state formation, the spread of Islam, cultural and political diversity in the forest region, domestic slavery, the Atlantic slave trade and abolition.

381(3302) West Africa Since 1800 (3) [CD]
Prerequisite: Junior standing or consent of instructor. Analysis of change in the savanna/forest societies occasioned by Islamic reform and the end of the slave trade, the imposition of colonial rule and African response, growth of nationalist protest, and post independence development.

385(3303) Africa Diaspora to 1800 (3) [CD]
Prerequisite: Junior standing or consent of instructor. Comparative in scope, the course examines major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora up to 1800. Themes include: slavery, multiracialism, economics of the South Atlantic system, political dimensions and the social transformation from heterogeneous crowds to new and homogenous communities. Linkages between Africans and their descendants in the Atlantic communities of Latin America, the Caribbean, as well as North America will be stressed.

386(3304) African Diaspora Since 1800 (3) [CD]
Prerequisite: Junior standing or consent of instructor. Comparative in scope, this course uses a comparative methodology to examine the major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora after 1800.

390(4001) Special Readings (1-10)
Prerequisite: Consent of the instructor. Independent study through readings, reports, and conferences.

392(4002) Collaborative Research (3-6)
Prerequisite: Consent of instructor. Faculty-student collaboration on a research project designed to lead toward publication of a jointly authored article. Faculty member will direct the research.

393(4003) Internship (3-6)
Prerequisites: Consent of supervising instructor and institution offering the internship. Supervised practicum in a museum, historical agency, and other institution offering an opportunity for hands-on experience in public history. This elective course supplements but does not replace requirements for baccalaureate degree in history. May not be taken for graduate credit.

394(4004) Senior Seminar (5)
Prerequisite: Consent of department and presentation of three examples of formal written work submitted in prior upper-division courses in history. Studies in historical methodology and historiography. Directed readings, research, and writing leading to the production of an original piece of historical scholarship. An exit interview is required. Senior Seminar is required for all history majors. May not be taken for graduate credit.

400(6101) Readings in American History to 1865 (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history to 1865.
403(6103) Mercantile Library Seminar and Readings in American History (3-5)
Prerequisite: Consent of instructor and advanced graduate standing. Directed readings and writing on selected topics and areas in American history that draw heavily upon resources in the St. Louis Mercantile Library.

405(6102) Readings in American History Since 1865 (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history since 1865.

407(6104) Readings in African-American History (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in African-American history.

410(6111) Readings in European History to 1715 (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history to 1715.

415(6112) Readings in European History Since 1715 (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history since 1715.

420(6113) Readings in East Asian History (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in East Asian history.

425(6114) Readings in Latin American History (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in Latin American history.

430(6115) Readings in African History (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in African history.

434(6134) History Curatorship (5)
Prerequisite: Graduate standing and consent of instructor. Principles and practices of curatorship in history museums. Historiography and research in material culture; theoretical foundations; methodologies for collecting and curating collections; legal and ethical issues, interpretation, role of the history curator in exhibit and program developments; and responsibilities to the community.

435(6135) Foundations of Museology I (3)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 435(6035) and Anthropology 435(6135).) Concepts for understanding museums in their social and cultural context; history of museums; museology and general social theory; information transfer vs. meaning-making models; museums and communities; the changing role of museums; museums as complex organizations; process models of museology.

436(6136) Foundations of Museology II (3)
Prerequisite: History 435(6035) and consent of Director of Museum Studies Program. (Same as Art 436(6036) and Anthropology 436(6136).) Audience-centered approaches to museology; visitor research and learning theory; philosophical and practical considerations in museum planning; the physical design of museums; creativity; exhibit and program development; collections and curation; the challenge of diversity; the future of museums.

437(6137) Effective Action in Museums (3)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 437(6037) and Anthropology 437(6137).) The nature of the work done in museums; how museums are organized to accomplish this work; professional roles and practices; technology and resources used by museums, skills for creative and effective leadership in project management and administration in museums; planning, flow charting, budgeting, team dynamics, and related skills. The course will include several site visits to area museums and guest lectures by a variety of museum professionals.

438(6138) Museum Studies Master's Project (4)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 438(6038) and Anthropology 438(6138).) Research and writing/exhibit development on a selected topic.

440(6013) United States History for the Secondary Classroom (3-6)
Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of American history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques particularly designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 440(6013) may not be used to meet History degree requirement.
441(6014) World History for the Secondary Classroom (3-6)
Prerequisite: Graduate standing or consent of instructor.
The intent of this course is to adapt the themes and subject matter of World history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 441(6014) may not be used to meet History degree requirement.

447(6122) Collaborative Research (3-6)
Prerequisites: Graduate standing and consent of instructor. Faculty-student collaboration on a research project designed to lead toward publication of a jointly authored article. Faculty member will direct the research.

448(6123) Thesis Seminar (2-6)
Prerequisite: Graduate standing and consent of instructor. Thesis research and writing on a selected topic in history.

449(6121) Directed Readings (1-3)
Prerequisite: Consent of a member of the doctoral faculty. Directed research at the graduate level.

450(7001) Doctoral Proseminar in American History to 1865 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Symantec review of the literature and methods of the field.

451(7002) Doctoral Research Seminar in American History to 1865 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

452(7005) Doctoral Proseminar in African-American History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

453(7006) Doctoral Research Seminar in African-American History (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

455(7003) Doctoral Proseminar in American History Since 1865 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

456(7004) Doctoral Research Seminar in American History Since 1865 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

460(7007) Doctoral Proseminar in European History to 1715 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

461(7008) Doctoral Research Seminar in European History to 1715 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

465(7009) Doctoral Proseminar in European History Since 1715 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

466(7010) Doctoral Research Seminar in European History Since 1715 (3)
Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

470(7011) Doctoral Proseminar in East Asian History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

471(7012) Doctoral Research Seminar in East Asian History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

475(7013) Doctoral Proseminar in Latin American History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

476(7014) Doctoral Research Seminar in Latin American History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

480(7015) Doctoral Proseminar in African History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.
481(7016) Doctoral Research Seminar in African History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

491(7017) Dissertation Research (1-18)
Prerequisite: Completion of the doctoral qualifying examination. Dissertation research and writing on a selected topic in history.

492(7018) Doctoral Presentation Seminar (1-3)
Prerequisite: Previous enrollment in History 491 and consent of department. Discussion and presentation of research in progress for the doctoral dissertation. Normally taken in the final year.

499(7019) Directed Readings for Doctoral Students (1-6)
Prerequisite: Consent of a member of the doctoral faculty. Directed research at the doctoral level.
Department of Mathematics and Computer Science

Faculty

A Prabhakar Rao, Professor*, Chairperson
Ph.D., University of California, Berkeley

Charles Chui, Distinguished Professor*
Ph.D., University of Wisconsin

Raymond Balbes, Professor*,
Ph.D., University of California, Los Angeles

William Connett, Professor*
Ph.D., University of Chicago

Richard Friedlander, Professor*, Associate Chairperson
Ph.D., University of California, Los Angeles

Deborah Tepper Haimo, Professor Emerita*
Ph.D., Harvard University

Wayne L. McDaniel, Professor Emeritus*
Ph.D., Saint Louis University

Alan L. Schwartz, Professor Emeritus*
Ph.D., University of Wisconsin-Madison

Stephen Selesnick, Professor Emeritus*
Ph.D., University of London

Jerrold Siegel, Professor*
Ph.D., Cornell University

Grant V. Welland, Professor*
Ph.D., Purdue University

Sanjiv K. Bhatia, Associate Professor*
Ph.D., University of Nebraska-Lincoln

Haiyan Cai, Associate Professor*
Ph.D., University of Maryland

Ronald Dotzel, Associate Professor*
Ph.D., Rutgers University

Cezary Janikow, Associate Professor*
Ph.D., University of North Carolina at Chapel Hill

Kyungho Oh, Associate Professor*
Ph.D., Purdue University

Jiang Qingtang, Associate Professor
Ph.D., Peking University

Frederick Wilke, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia

Shiyong Zhao, Associate Professor*
Ph.D., University of South Carolina

Galina N. Piatnitskaya, Affiliate Associate Professor
Ph.D., Moscow Physical-Technical Institute

Uday K. Chakraborty, Assistant Professor*
Ph.D., Jadavpur University

Wenjie He, Assistant Professor*
Ph.D., University of Georgia

Donald E. Gayou, Affiliate Assistant Professor
Ph.D., Iowa State University

John Antognoli, Senior Lecturer; Coordinator of Evening Program
M.A., University of Missouri-St. Louis

Preetam S. Desai, Lecturer
M.S., University of Missouri-St. Louis

Qiang Sun Dotzel, Lecturer
M.A., University of Missouri-St. Louis

Dorothy Gotway, Lecturer
M.A., University of Kansas-Lawrence

Marlene Gustafson, Senior Lecturer
M.A., Western Reserve University

Mary Kay McKenzie, Senior Lecturer
M.S., Saint Louis University

Shahla Petkman, Senior Lecturer
M.S., University of Wisconsin-Madison

Gillian Raw, Senior Lecturer Emerita
M.A., Washington University

Emily Ross, Senior Lecturer
M.A., Saint Louis University

Paul Schneider, Senior Lecturer
M.A., Saint Louis University

John E. Seiffertt IV, Lecturer
M.S., University of Missouri-Rolla

Cynthia Siegert, Senior Lecturer Emerita
M.A., University of Chicago

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The Department of Mathematics and Computer Science offers work leading to the B.A. in mathematics, the B.S. in applied mathematics, the B.S. in computer science, and in cooperation with the College of Education, the B.S. in secondary education with a major in mathematics. The applied mathematics program has three emphasis areas: statistics, classical applied mathematics, and computational mathematics. The department also offers minors in computer science, mathematics, and statistics.

The program leading to the B.A. in mathematics is flexible, providing a broad introduction to the important branches of mathematics while giving students the depth necessary to pursue graduate study successfully. The B.S. in applied mathematics provides a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. The B.S. in computer science prepares students for employment in modern computing technology and applications of computer science. The B.S. in secondary education introduces students to those branches of mathematics most relevant to teaching secondary-school mathematics.

The Department of Mathematics and Computer Science also offers a master's of arts (M.A.) degree in mathematics, a master of science (M.S.) degree in computer science and a Ph.D. in applied mathematics. Students pursuing the M.A. degree in mathematics may choose an emphasis in either pure or applied mathematics. The pure mathematics emphasis is well-suited for students preparing to teach at the high school, junior college, or four-year liberal arts college level. Those who concentrate on applied courses in the M.A. program build a foundation for the application of mathematics in industry and the continuation of their education in the Ph.D. program in applied mathematics. The M.S. degree in computer science emphasizes practical
aspects of the field. Students may enroll in any of these graduate programs on a part-time basis.

Department Scholarships

The Department of Mathematics and Computer Science offers two scholarships for students who are majoring in mathematics or computer science.

The Mathematical Sciences Alumni Scholarship is a monetary award for outstanding undergraduates at the junior or senior level. The Donald Hankinson Memorial Scholarship is a monetary award for outstanding students at the sophomore level or higher, including graduate students. Applicants for each of these scholarships must have a grade point average of 3.5 or higher in at least 24 hours of graded course work at the University of Missouri-St. Louis, and show superior achievement in courses in the mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application for both scholarships is March 15, and the scholarships must be used for educational fees or for books at UM-St. Louis starting in the fall semester following the application.

Undergraduate Studies

General Education Requirements
All majors must satisfy the university and appropriate school or college general education requirements. All mathematics courses may be used to meet the university’s general education breadth of study requirement in natural sciences and mathematics.

Satisfactory/Unsatisfactory Restrictions
Majors in mathematics and computer science may not take mathematical sciences or related area courses on a satisfactory/unsatisfactory basis. Students considering graduate study should consult with their advisers about taking work on a satisfactory/unsatisfactory basis.

Degree Requirements
All mathematical sciences courses presented to meet the degree requirements must be completed with a grade of C- or better. At least four courses numbered 250 or above must be taken in residence. Students must have a 2.0 grade point average in the mathematical sciences courses completed.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the Schedule of Classes. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Note: Courses that are prerequisites for higher-level courses may not be taken for credit or quality points if the higher-level course has been satisfactorily completed.

Bachelor of Arts in Mathematics and Bachelor of Science in Education Majoring in Secondary Education with Emphasis in Mathematics

Candidates for either the B.A. degree or the B.S. in Education are required to complete the following course work:

1) All of the following mathematics courses:
   80(1800), Analytic Geometry and Calculus I
   175(1900), Analytic Geometry and Calculus II
   180(2000), Analytic Geometry and Calculus III
   150(2050), Discrete Math
   202(2020), Elementary Linear Algebra

2) Probability and Statistics
   132(1320), Applied Statistics I

3) Five courses from at least three of the following blocks.

   Analysis and Topology
   310(4100), Advanced Calculus I
   311(4110), Advanced Calculus II
   316(4160), Functions of a Complex Variable
   380(4800), Introduction to Topology

   Algebra
   335(4350), Theory of Numbers
   340(4400), Introduction to Abstract Algebra I
   341(4410), Introduction to Abstract Algebra II
   345(4450), Linear Algebra

   Applications
   303(4030), Applied Mathematics I
   306(4060), Applied Differential Equations
   320(4200), Mathematical Statistics I
   321(4210), Mathematical Statistics II
   324(4240), Numerical Analysis I
   327(4270), The Calculus of Variations
   355(4550), Combinatorics

   Geometry and Logic
   (B.S. in secondary education majors must complete
   366(4660) or 367(4670).
   358(4580), Mathematical Logic
   362(4620), Projective Geometry
   364(4640), Introduction to Differential Geometry
   366(4660), Foundations of Geometry

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College of Arts & Sciences
Department of Mathematics and Computer Science

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One of the following computer science courses is required:
Computer Science 122(1220), Computers and Programming or Computer Science 125(1250), Introduction to Computing

Bachelor of Science in Applied Mathematics

The following course work is required:
1) Mathematics
80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
202(2020), Introduction to Differential Equations
245(2450), Elementary Linear Algebra
255(3000), Discrete Structures
345(4450), Linear Algebra
310(4100), Advanced Calculus I, or
340(4400), Introduction to Abstract Algebra I

2) Probability and Statistics
132(1320), Applied Statistics I

3) All the courses in option a, b, or c:

a) Classical Applied Mathematics Option
The following courses in mathematics are required:
303(4030), Applied Mathematics I
316(4160), Functions of a Complex Variable
320(4200), Mathematical Statistics I
323(4230), Numerical Analysis I

One of the following computer science courses is required:
CS 122(1220), Computers and Programming, or
CS 125(1250), Introduction to Computing

Also required are two additional courses in mathematical sciences, numbered above 250, as well as Physics
111(1011), Physics: Mechanics and Heat, and Physics
112(1012), Physics: Electricity, Magnetism, and Optics.

b) Probability and Statistics Option
The following courses in probability and statistics are required:
232(2320), Applied Statistics II
320(4200), Mathematical Statistics I
321(4210), Mathematical Statistics II
330(4300), Multivariate Analysis
333(4330), Nonparametric Methods in Statistics

Also required are the following computer science courses:
125(1250), Introduction to Computing
225(2250), Programming and Data Structures

Two related courses should be chosen with the approval of the adviser.

Bachelor of Science in Computer Science

The following course work is required:

1) Computer Science
125(1250), Introduction to Computing
225(2250), Programming and Data Structures
240(2700), Computer Systems: Architecture and Organization
241(2710), Computer Systems: Programming
255(3000), Discrete Structures
274(2260), Object-Oriented Programming with C++
275(2750), Advanced Programming with Unix
278(3130), Design and Analysis of Algorithms
325(4250), Programming Languages
328(4280), Program Translation Techniques
376(4760), Operating Systems

2) Mathematics and Statistics
80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
245(2450), Elementary Linear Algebra
132(1320), Applied Statistics I

3) Philosophy 258(4458), Ethics and the Computer

4) Five more elective courses, numbered above 300 if in computer science, and above 200 if in mathematics or statistics. At least three of these elective courses must be in computer science, and at least one must be in mathematics or statistics.

Related Area Requirements
To broaden student understanding of the sources and uses of mathematics, the department requires all candidates for the B.A. in mathematics, B.S. in education, B.S. in applied mathematics, and B.S. in computer science to complete all courses in any two of the groups below with a grade of C- or better.

Restrictions Related area requirements may not be taken on a satisfactory/unsatisfactory (s/u) basis. Students in either the computer science degree program or the mathematics or computational mathematics emphasis areas for the applied mathematics degree program may not choose
group 5; students in the classical applied math emphasis area may not choose group 8. Candidates for the B.S. in applied mathematics and the B.S. in computer science who choose group 9 must satisfy group 9 requirements with Physics 221(3221), Mechanics, and Physics 223(3223), Electricity and Magnetism. Students in the computational mathematics emphasis area for the applied mathematics degree are strongly encouraged to choose group 8 as one of their related areas.

Related Area Courses
1) Biology:
220(2102), General Ecology
222(2103), General Ecology Laboratory
2) Biology:
224(2012), Genetics
341(4182), Population Biology
3) Chemistry:
11(1111), Introductory Chemistry
12(1121), Introductory Chemistry II
4) Chemistry:
231(3312), Physical Chemistry I
and another 200-level, or above, chemistry course.
5) Computer Science
225(2250), Programming and Data Structures
and one of either
240(2700), Computer Systems: Architecture and Organization, or
278(3130), Design and Analysis of Algorithms
6) Economics:
365(4100), Introduction to Econometrics, and one of either:
366(4100), Applied Econometrics, or
367(4130), Econometric and Time Series Forecasting
7) Philosophy:
160(3360), Formal Logic
280(3380), Philosophy of Science
360(4460), Advanced Formal Logic
8) Physics:
111(2111), Physics: Mechanics and Heat
112(2112), Physics: Electricity, Magnetism, and Optics
9) Physics:
221(3221), Mechanics
and another 200-level, or above, physics course
10) Business Administration:
252(3320), Introduction to Operations Management
PLUS one of
308B(4330), Production and Operations Management - Logistics
308D(4324), Production and Operations Management - Service Systems
329(4312), Business Forecasting
330(4326), Quality Assurance in Business
375(4350), Operations Research
11) Engineering:
144(2310), Statics
145(2320), Dynamics
Many students are qualified, as a result of having studied calculus in high school, to begin their major with Math 175(1900), Analytic Geometry and Calculus II, or Math 180(2000), Analytic Geometry and Calculus III. These students are urged to consult with the department before planning their programs. Credit for Mathematics 80(2000), Analytic Geometry and Calculus I, will be granted to those students who complete Mathematics 175(1900) with a grade of C- or better.

Similarly, students who are ready to begin their computer science studies with Computer Science 225(2250), Programming and Data Structures, will be granted credit for Computer Science 125(1250), Introduction to Computing, once they complete Computer Science 225(2250) with a grade of C- or better.

Students preparing for graduate study should take eight or nine mathematics courses at the junior-senior level. The department recommends the following mathematics courses:
310(4100), Advanced Calculus I
316(4160), Functions of a Complex Variable
340(4400), Introduction to Abstract Algebra I
345(4450), Linear Algebra
380(4800), Introduction to Topology
Minor Requirements
The department offers minors in computer science, mathematics, and statistics. All courses presented for any of these minors must be completed with a grade of C- or better.

Minor In Computer Science
The requirements for the minor are:
125(1250), Introduction to Computing
225(2250), Programming and Data Structures
240(2700), Computer Systems: Architecture and Organization
and two additional courses in Computer Science numbered above 240(2700). At least one of these must be either Computer Science 241(2710), Computer Systems: Programming, or Computer Science 278(3130), Design and Analysis of Algorithms. A minimum of two computer science courses numbered above 240(2700) must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.
Minor in Mathematics
The requirements for the minor are:
80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
and one additional three-hour mathematics course numbered above 180(2000). A minimum of two mathematics courses numbered 180(2000) or above must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Minor in Statistics
The requirements for the minor are:
132(1320), Applied Statistics I
232(2320), Applied Statistics II
320(4200), Mathematical Statistics I
321(4210), Mathematical Statistics II

A minimum of two statistics courses numbered above 200 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Graduate Studies
The Department of Mathematics and Computer Science offers an M.A. degree in mathematics, Ph.D. degree in applied mathematics, and an M.S. degree in computer science.

Admission
Applicants must meet the general admission requirements of the Graduate School, described elsewhere in this Bulletin. Additional admission requirements for specific programs are listed below.

Mathematics Programs
Applicants must have at least a bachelor's degree in mathematics or in a field with significant mathematical content. Examples of such fields include computer science, economics, engineering and physics. An applicants record should demonstrate superior achievement in undergraduate mathematics.

Individuals may apply for direct admission to either the M.A. or Ph.D. program. Candidates for the M.A. degree may choose to concentrate in either pure or applied mathematics. A student in the M.A. program may petition the department for transfer to the Ph.D. program upon successful completion of 15 credit hours and fulfillment of additional requirements as listed below.

Students intending to enter the Ph.D. program must have a working ability in modern programming technologies. A student with a deficiency in this area may be required to take courses at the undergraduate level in computer science.

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Applicants for the Ph.D. program must, in addition, submit three letters of reference and scores from the Graduate Record Examination (GRE) general aptitude test and the subject test in mathematics. Applicants who did not major in mathematics may substitute the subject test in another field.

Computer Science Program
Applicants for the M.S. Degree in Computer Science must have at least a bachelor's degree, preferably in computer science or in a related area. Students with bachelor's degrees outside computer science must demonstrate significant proficiency in computer science, either by taking the GRE subject area examination or by explicitly showing competence in the following areas. (Any area requirement can be satisfied through suitable experience or completed coursework, if approved by the Graduate Director.)

- Programming experience equivalent to at least two semesters, including knowledge of a modern structured language and a modern object-oriented language.
- Elementary data structures.
- Assembly language programming, computer architecture, or computer organization.
- Design and analysis of algorithms
- Basic knowledge of the Unix operating system and program development environment.

Students must also have completed mathematics courses equivalent to the following:

Two semesters of calculus.
Elementary linear algebra.
Discrete mathematical structures.
Elementary probability or statistics

A student missing some of the above requirements may be admitted on restricted status if there is strong supportive evidence in other areas. Special regulations of the Graduate School applying to students while they are on restricted status are described elsewhere in this Bulletin.

Preliminary Advisement
Incoming students are assigned advisers with whom they should consult before each registration period to determine an appropriate course of study. If necessary, students may be required to complete undergraduate course work without receiving graduate credit.

Degree Requirements

Master of Arts in Mathematics
Candidates for the M.A. degree must complete 33 hours of course work. All courses numbered below 400 must be completed with grades of at least B. The courses taken must include those listed below in either group A) or group B), together with additional courses discussed in C).
Students who have already completed courses equivalent to those in A) or B) may substitute other courses numbered above 300. All substitutions of courses for those listed in A) or B) require the prior approval of the graduate director.

A) Pure mathematics core:
- 310(4100), Advanced Calculus
- 316(4160), Functions of a Complex Variable
- 340(4400), Introduction to Abstract Algebra I
- 345(4450), Linear Algebra
- 380(4800), Introduction to Topology

B) Applied mathematics core:
- 310(4100), Advanced Calculus
- 316(4160), Functions of a Complex Variable
- 320(4100), Mathematical Statistics
- 323(4330), Numerical Analysis I
- 345(4450), Linear Algebra

C) M.A. candidates must also complete 18 hours of course work numbered 400 or above, chosen with the prior approval of the graduate director. Courses may be chosen to develop expertise in either pure or applied mathematics.

Thesis Option Part of C) may consist of an M.A. thesis written under the direction of a faculty member in the Department of Mathematics and Computer Science. A thesis is not, however, required for this degree. A student who wishes to write a thesis should enroll in 6 hours of Math 490(6900), M.A. Thesis. Students writing an M.A. thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

M.A. degree students may have several of the courses in B) as part of their undergraduate record. Those who anticipate enrolling in the Ph.D. program are advised to use the opportunity to replace courses in B) they have had at the undergraduate level with courses such as

- 311(4110), Advanced Calculus II
- 380(4800), Introduction to Topology and if possible
- 331(4310), Analysis of Variance and Design of Experiments
- 340(4400), Introduction to Abstract Algebra I
- 364(4640), Introduction to Differential Geometry

Doctor of Philosophy in Applied Mathematics

The requirements for the Ph.D. degree include the following:
- Course work
- Ph.D. candidacy
- Doctoral dissertation

The requirements are described in detail below.

Course Work
A minimum of 60 hours of courses numbered 300 or above is required, including dissertation work. At least 33 hours must be in courses numbered 400 or above. All courses numbered below 400 must be completed with a grade of at least B. In addition to course work, all Ph.D. students are required to attend and participate in applied mathematics seminars.

Distribution Requirement
Among the courses presented for the degree there must be six courses from the following list such that at least three areas are represented and at least two courses are chosen from each of two of these areas:

I. Analysis and Applied Mathematics
- 402(5020), Classical Applied Mathematics
- 403(5700), Topics in Applied Mathematics
- 410(5100), Theory of Functions of a Real Variable
- 416(5160), Functions of a Complex Variable
- 418(5710), Topics in Analysis
- 430(5300), Partial Differential Equations
- 470(6700), Functional Analysis

II. Numerical Analysis
- 423(5720), Topics in Numerical Analysis
- 427(5270), Numerical Linear Algebra

III. Optimization and Operations Research
- 435(5350), Operations Research - Deterministic Models
- 436(5360), Operations Research - Stochastic Models
- 437(5370), Quality Management
- 460(5040), Calculus of Variations

IV. Computational Mathematics
- 404(5600), Topics in Computation
- 405(5050), Computational Curves and Surfaces
- 406(5060), Computational Harmonic Analysis
- 407(6070), Time-Frequency Analysis
- 408(6080), Advances in Wavelet Analysis

V. Probability and Statistics
- 420(6200), Probability Theory
- 428(6600), Topics in Probability Theory
- 432(5320), Applied Statistics

2. Advancement to Ph.D. Candidacy
Advancement to Ph.D. candidacy is a four-step process consisting of:

A) Completing distribution requirement.
B) Passing the comprehensive examinations.
C) Selecting a Ph.D. committee and preparing a dissertation proposal.
D) Defending the dissertation proposal.

Comprehensive Examinations

Comprehensive examinations are offered in the following areas:

- Applied Mathematics
- Real Analysis
- Complex Analysis
- Numerical Analysis
Optimization
Operations Research
Computational Mathematics
Probability
Statistics

The examinations are given on a rotating basis through the academic year; more detailed information on the individual examinations can be found in the Department of Mathematics and Computer Science Graduate Student Handbook. Each student must pass four comprehensive examinations. Upon permission by the Graduate Director and the Graduate School, a student may take one examination in a field which is not fully represented by any one of the above areas. This exam is created by a panel of three professors in consultation with the Graduate Director. The panel may include one professor from another department if special expertise outside mathematics and computer science is needed. This examination may be administered as an oral exam.

Students must apply to take each examination at least 45 days before the examination is offered. A student may attempt a comprehensive examination over a particular area no more than twice; the second attempt must be within 13 months of the first attempt.

Selection of a Ph.D. Committee and Preparation of a Dissertation Proposal.
The student is required to identify a dissertation adviser and an area of specialization for the dissertation. The area of specialization can be in a discipline complementary to mathematics. Usually, students select an adviser from contacts made through course work or in the seminar series. The adviser and student will then form a Ph.D. committee which may include faculty from other departments at UM-St. Louis. The committee advises the student on course work and research.

Each student must prepare a dissertation proposal. This is a substantial document describing the problem to be worked on and the methods to be used. It should also demonstrate the student's proficiency in written communication. The proposal is to be submitted to the Ph.D. committee for approval.

Dissertation Proposal Defense. If the Ph.D. committee finds the student's dissertation proposal acceptable, a defense is scheduled. This is a public event in which the student demonstrates mastery of the necessary skills to begin research.

3. Dissertation and Dissertation Defense
Each Ph.D. candidate must write a dissertation which is an original contribution to the field on a topic approved by the candidate's Ph.D. Committee and the department, and which meets the standards and requirements set by the Graduate School including the public defense of the dissertation. Students working on a dissertation may enroll in Math 499(7990), Ph.D. Dissertation Research; a maximum of 9 hours in Math 499(7990) can be used toward the required hours of work in courses numbered 400 or above.

Master of Science in Computer Science
Candidates for the M.S. degree in Computer Science must complete 30 hours of course work, subject to the Graduate School regulations. All courses numbered below 400 must be completed with grades of at least B. Outside computer science, up to 6 hours of related course work is allowed upon permission of the Graduate Director.

Students must receive credit in all areas of the following core requirements. Waiving or substituting for a specific requirement can be done on the basis of prior course work or experience (at the discretion of the Graduate Director), but it will not reduce the total hours required for the degree.

- Operating Systems (CS 376(4760) or CS 476(5760))
- Programming Languages (CS 325(4250))
- Computer Systems (CS 470(5700))
- Software Development (one of CS 450(5500), CS 452(5520), CS 454(5540), or CS 456(5560))
- Advanced Data Structures and Algorithms (CS 413(5130))

Financial Assistance
Any student who intends to apply for financial assistance, in the form of a teaching assistantship or a research assistantship, is required to have three letters of recommendation submitted with the application to the graduate program in Mathematics or Computer Science. The application must include scores on the GRE general aptitude test. Applicants are also encouraged to submit scores in the GRE subject area test in Mathematics or Computer Science. Applications for financial assistance should be submitted before February 15 prior to the academic year in which the student expects to begin graduate study. Notifications of awards are generally made March 15, and students awarded financial assistance are expected to return letters of acceptance by April 15.

Career Outlook
Graduates from the Department of Mathematics and Computer Science have little difficulty in finding positions in industry, government, and education. The demand for individuals well-trained in statistics, computer science, and applied mathematics is greater than the available supply. In addition, a number of graduates in mathematics have elected careers in business and other related fields where they have found their logical and analytical skills to be well-rewarded.
Course Descriptions

Courses in this section are grouped as follows: Mathematics, Computer Science, and Probability and Statistics.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the Schedule of Courses.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

**Mathematics: 20(1020), 30(1030), 35(1035), 50*(1150), 70(1070), 80(1800), 100(1100), 102(1102), 105(1105), 151*(2510), 152**(3520), 175(1900), 180(2000), 202(2020), 245(2450), 255(3000), 303(4030), 306(4060), 310(4100), 311(4110), 316(4160), 323(4230), 324(4240), 327(4270), 335(4350), 340(4400), 341(4410), 345(4450), 350(4500), 355(4550), 358(4580), 362(4620), 364(4640), 366(4660), 367(4670), 380(4800), 389(4890).**

**Computer Science: 101(1010), 122(1220), 125(1250), 170(1050), 201(2010), 225(2250), 240(2700), 241(2710), 255(3000), 273(2210), 274(2260), 275(2750), 278(3130), 301(4010), 302(4020), 304(4040), 305(4050), 314(4140), 325(4250), 328(4280), 330(4300), 341(4410), 344(4440), 350(4500), 352(4520), 354(4540), 356(4560), 361(4610), 362(4620), 373(4730), 374(4740), 376(4760), 377(4770), 378(4780), 388(4880), 389(4890).**

**Statistics: 31(1310), 132(1320), 232(2320), 320(4200), 321(4210), 326(4260), 330(4300), 331(4310), 332(4320), 333(4330), 339(4390).**

**Computer Systems: 50(1150).**

**Statistics: 31(1310), 132(1320), 232(2320), 320(4200), 321(4210), 326(4260), 330(4300), 331(4310), 332(4320), 333(4330), 339(4390).**

*Mathematics 50(1150) and 151(2510) fulfill this requirement only for students seeking the B.S. in education degree in Early Childhood Education, Elementary Education, and Special Education.

**Mathematics 152(2350) fulfills this requirement only for students seeking the B.S. in education degree in middle school mathematics.

Mathematics

20(1020) Contemporary Mathematics (3) [MS]
Prerequisites: A satisfactory ACT Math score or a satisfactory score on the university's mathematics placement examination. Presents methods of problem solving, centering on problems and questions which arise naturally in everyday life. May include aspects of algebra and geometry, the mathematics of finance, probability and statistics, exponential growth, and other topics chosen from traditional and contemporary mathematics which do not employ the calculus. May be taken to meet the mathematical proficiency requirement, but may not be used as a prerequisite for other mathematics courses. Designed for students who do not plan to take Calculus. Credit will not be granted for Math 20(1020) if credit has been granted for Math 30(1030), Math 52(1035), or Math 70(1070). Concurrent enrollment in Math 20(1020) and any of these courses is not permitted.

30(1030) College Algebra (3) [MS]
Prerequisites: A satisfactory ACT Math score or a satisfactory score on the university's mathematics placement examination. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, and solutions to systems of equations.

35(1035) Trigonometry (2) [MS]
Prerequisite: Math 30(1030) or concurrent registration. A study of the trigonometric and inverse trigonometric functions with emphasis on trigonometric identities and equations.

50(1150) Structure of Mathematical Systems I (3)
Prerequisites: 45 hours of college credit and one of the following: Math 50(1150), a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. A study of sets, relations, functions, whole numbers, the integers and their properties, and the rational and real number systems. Credit will be granted only toward the B.S. in education degree in Early Childhood Education, Elementary Education, Middle School Education and Special Education.

70(1070) Applied Mathematics of Interest (2)
Prerequisites: Math 30(1030). An introduction to the role of interest in applied mathematics. Topics include simple and compound interest, mathematics of annuities, amortization bonds, sinking funds, and mortgages.

80(1800) Analytic Geometry and Calculus I (5) [MS]
Prerequisites: Math 30(1030) and 35(1035), or a satisfactory ACT Math score along with a satisfactory score on the university's trigonometry examination, or a satisfactory score on both the university's mathematics proficiency examination and the university's trigonometry examination. Introduction to analytic geometry, differential calculus, and integral calculus. Math 80(1800), 175(1900), and 180(2000) form the calculus sequence.

100(1100) Basic Calculus (3) [MS]
Prerequisite: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. Introduction to plane analytic geometry and basic differential and integral calculus with application to various areas. No credit for Mathematics majors. Credit not granted for both Math 80(1800) and 100(1100).
102(1102) Finite Mathematics I (4)  
Prerequisite: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's proficiency examination. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes, Markov chains, vectors and matrices, linear programming, and game theory.

105(1105) Basic Probability and Statistics (3) [MS]  
Prerequisites: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. An introduction to probability and statistics. Topics include the concept of probability and its properties, descriptive statistics, discrete and continuous random variables, expected value, distribution functions, the central limit theorem, random sampling and sampling distributions. Credit not granted for more than one of Stat 31(1310), Stat 132(1320) and Math 105(1105).

132(1320) Applied Statistics I  
Prerequisites: Math 80(1800) or 100(1100). See Statistics 132(1320) in Probability and Statistics section that follows.

151(2510) Structure of Mathematical Systems II (3)  
Prerequisite: Math 50(1150). An introduction to probability and statistics. An intuitive study of algebra. Focus on elementary geometry. An introduction to the deductive theory of geometry and to coordinate geometry. Credit will be granted only toward the B.S. in education degree in Early Childhood Education, Elementary Education, Middle School Education and Special Education.

152(3520) Structure of Mathematical Systems III (3)  
Prerequisite: Math 151(2510). Together with Math 50(1150) and 151(2510), this course teaches mathematics necessary for middle school mathematics certification. Topics from Math 50(1150) and 151(2510) are continued. Other topics include geometric constructions, similarity, coordinate geometry, normal distribution, combinatorics, and trigonometry. Credit granted only toward B.S. in Education degree in Early Childhood Education, Elementary Education, Special Education, and Middle School Education.

175(1900) Analytic Geometry and Calculus II (5)  
Prerequisite: Math 80(1800). Selected topics from plane analytic geometry and calculus.

Prerequisite: Math 175(1900). Solid analytic geometry and selected topics in calculus.

202(2020) Introduction to Differential Equations (3)  
Prerequisite: Math 180(2000). Topics will be chosen from linear differential equations, equations with constant coefficients, Laplace transforms, power series solutions, systems of ordinary differential equations.

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245(2450) Elementary Linear Algebra (3)  
Prerequisites: Math 100(1100) or 175(1900). An introduction to linear algebra. Topics will include complex numbers, geometric vectors in two and three dimensions and their linear transformations, the algebra of matrices, determinants, solutions of systems of equations, eigenvalues and eigenvectors.

255(3000) Discrete Structures (3)  
Prerequisite: Math 175(1900) or 100(1100), and CS 125(1250) or equivalent. (Same as CS 255(2250) Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than one of CS 255(2250) and Math 255(3000).

303(4030) Applied Mathematics I (3)  
Prerequisites: Math 202(2020) and 245(2450). Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

306(4060) Applied Differential Equations (3)  
Prerequisite: Math 202(2020) and 245(2450). The study of ordinary differential equations and partial differential equations is continued with applications in such areas as physics engineering and biology.

310(4100) Advanced Calculus I (3)  
Prerequisite: CS/Math 255(3000) and 180(2000). Limits, continuity, and differentiability of functions of one and several variables, sequences and series, and the Riemann Stieltjes integral.

311(4110) Advanced Calculus II (3)  
Prerequisite: Math 310(4100). Continuation of Math 310(4100).

316(4160) Functions of a Complex Variable (3)  
Prerequisite: Math 202(2020) or both CS/Math 255(3000) and Math 180(2000). Complex numbers and their geometrical representation, point sets, analytic functions of a complex variable, complex integration, Taylor and Laurent series, residue theorem, conformal mapping.

320(4200) Mathematical Statistics I (3)  
(Same as Statistics 320(4200) See Statistics 320(4200) Probability and Statistics section that follows.

321(4210) Mathematical Statistics II (3)  
(Same as Statistics 321(4210) See Statistics 321(4210) in Probability and Statistics section that follows.
Advanced counting methods are introduced, including the use of generating functions for the solution of recurrences and difference equations. Additional topics may include: graphs and trees, combinatorial designs, combinatorial games, error-correcting codes, and finite-state machines.

324(4240) Numerical Analysis II (3)
Prerequisite: Math 323(4230) or consent of instructor.
Topics chosen from: the numerical solution of systems of linear equations; the eigenvalue/eigenvector problem; numerical solution of Partial Differential Equations (PDE); numerical solution of stiff Ordinary Differential Equations (ODE); boundary value problems; sparse matrix methods; approximation theory; optimization theory; digital filters; integral equations.

327(4270) The Calculus of Variations (3)

335(4350) Theory of Numbers (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of instructor. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

340(4400) Introduction to Abstract Algebra I (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of the department. Introduction to groups, rings, and fields, with emphasis on groups and rings.

341(4410) Introduction to Abstract Algebra II (3)
Continuation of Math 340(4400) with emphasis on fields.

345(4450) Linear Algebra (3)
Prerequisites: CS/Math 255(3000), Math 180(2000) and Math 245(2450). Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, and quadratic forms.

350(4500) Special Readings (1-10)
Prerequisites: CS/Math 255(3000), Math 180(2000) and consent of instructor.

355(4550) Combinatorics (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000). Advanced counting methods are introduced, including the use of generating functions for the solution of recurrences and difference equations. Additional topics may include: graphs and trees, combinatorial designs, combinatorial games, error-correcting codes, and finite-state machines.

358(4580) Mathematical Logic (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000) or Philosophy 360(4460). A study of the logic of mathematics by the axiomatic method, with a development of the propositional calculus and restricted predicate calculus emphasizing its application to the foundations of mathematics.

362(4620) Projective Geometry (3)

364(4640) Introduction to Differential Geometry (3)

366(4660) Foundations of Geometry (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of department. A development of portions of Euclidean geometry from a selected set of axioms, including a discussion of consistency, independence, categoricity, and completeness of the axioms.

367(4670) Introduction to Non-Euclidean Geometry (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of the department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry.

380(4800) Introduction to Topology (3)
Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of the department. A study of topological spaces, including the concepts of limit, continuity, connectedness, compactness, etc. Special emphasis placed on, and examples taken from, the space of real numbers.

389(4890) Topics in Mathematics (3)
Prerequisite: Consent of instructor. A seminar on special topics in mathematics to be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

401(5010) Theory of Ordinary Differential Equations (3)
Prerequisite: Math 310(4100). A theoretical treatment of ordinary differential equations including the existence and uniqueness of solutions of differential equations and systems of differential equations. The course treats such topics as systems of linear differential equations, eigenvalue problems, autonomous systems, and boundary value problems.
### 402(5020) Classical Applied Mathematics (3)
Prerequisites: Math 310(4100), 316(4160), and 345(4450) or consent of instructor. The course gives the derivation of equations of mathematical physics such as Navier-Stokes' equations, Euler's equations, equations of elastic materials, and equations of electrodynamies, using scaling and conservation principles. The course also includes elements of the calculus of variations, the Euler-Lagrange equations and Hamiltonian theory.

### 403(5700) Topics in Applied Mathematics (3)
Prerequisite: Consent of instructor. The course will cover various advanced topics in applied mathematics, and can be taken more than once for credit. Examples of such topics are: Fast transforms, digital filters, etc.

### 404(5600) Topics in Computation (3)
Prerequisite: Consent of instructor. The course will cover various advanced topics in computation and can be taken more than once for credit. Examples of such topics are: computer graphics, computer architecture, theories of language, analysis of operating systems, numerical geometry and computer aided design, etc.

### 405(5050) Computational Curves and Surfaces (3)
Prerequisite: Math 310(4100), 323(4230) and 345(4450), or consent of instructor. Construction of curves and surfaces using subdivision algorithms. Iterative refinement of discrete data in an easily programmable manner. Discussion of issues of convergence, shape control, relation to spline functions with uniform knots, multi resolution analysis, and wavelets.

### 406 (5060) Computational Harmonic Analysis (3)
Prerequisites: Math 303(4030), Math 310(4100), and Math 345(4450). The course covers the basic of Fourier analysis and wavelet analysis. Topics include Fourier transforms and series, discrete Fourier transform, discrete cosine transform ad their fast computational schemes, fast wavelet transform, and the lifting scheme. Additional topics include industrial standards for image compression and several aspects of signal processing.

### 407(6070) Time-Frequency Analysis (3)
Prerequisites: Math 406(5060). The course covers theoretical and practical aspects of several time-frequency methods. Included are linear transformations such as filtering, Zak, Gabor and wavelet transforms; bilinear transformations include the Winger-Ville distribution and other distributions of Cohen's class. Statistical methods of feature extraction and applications to signal compression are outlined as well.

### 408(6080) Advances in Wavelet Analysis (3)
Prerequisite: Math 406(5060). The course describes recent developments in several research areas connected with wavelet analysis. Included are frames, wavelet vectors, wavelet packets, wavelets on compact intervals and manifolds, adaptive (nonlinear) methods, and methods of computational physics. Applications include the sparsification of matrices, denoising and compression of signals.

### 410(5100) Theory of Functions of a Real Variable (3)
Prerequisites: Math 310(4100) and 380(4800). The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

### 411(5110) Differentiable Manifolds (3)
Prerequisites: Math 310(4100), 345(4450), and 380(4800). An introduction to smooth manifolds and maps. Topics will include the Implicit Function Theorem, Sard's Theorem, transversality, intersection and degree theory, differential forms and integration on manifolds.

### 416(5160) Functions of a Complex Variable (3)
Prerequisites: Math 310(4100), 316(4160), and 380(4800). Complex numbers, topology of the complex plane, analytic functions, conformal mappings, Taylor series, Laurent series, complex integration, residues, analytic continuation, representation of analytic functions, elliptic functions, normal families, Riemann theorem, majorization.

### 418(5710) Topics in Analysis (3)
Prerequisite: Consent of instructor. Topics selected from the areas of Fourier analysis, harmonic analysis, Hilbert spaces, Banach algebras, special functions, generalized functions, partial differential equations. May be taken more than once for credit with consent of department.

### 420(6200) Probability Theory (3)
Prerequisite: Math 410(5100) (may be taken concurrently). Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, and branching processes.

### 423(5720) Topics in Numerical Analysis (3)
Prerequisite: Consent of instructor. The course will cover various advanced topics in numerical analysis and can be taken more than once for credit. Examples of such topics are: A.D.I. Techniques for solving p.d.e., finite element techniques, the algebraic eigenvalue problem, the software, etc.

### 427(5270) Numerical Linear Algebra (3)
Prerequisite: Math 323(4330) and Math 345(4450) or consent of the instructor. The course includes solution of general and special linear systems. Techniques include methods (such as splitting or Krylov subspaces). Additional topics are the eigenvalue problem and the method of least squares.

### 428(6600) Topics in Probability Theory (3)
Prerequisite: Consent of instructor. The course will cover advanced topics in probability theory and may be taken more than once for credit with the consent of the department.
430(5300) Partial Differential Equations (3)
Prerequisites: Math 310(4100), 316(4160), 345(4450), and 380(4800). Classification of partial differential equations; Cauchy, Dirichlet, and Neumann problems; the fundamental solution; existence theorems of potential theory; eigenvalue problems; and Tricomi's problem.

432(5320) Applied Statistics (3)
Prerequisites: Statistics 321(4210) or consent of instructor. The course studies classical and recently developed statistical procedures selected from areas including analysis of variance, multivariate analysis, nonparametric or semiparametric methods and generalized linear models. Emphasis is on application of procedures, including the rationale underlying choice of procedures.

435(5350) Operations Research-Deterministic Models (3)
Prerequisites: Math 345(4450) or equivalent. (Same as MSIS 428(7350).) A study of deterministic methods and models in operations research. This course provides an introduction to operations research and focuses on model building, solution and interpretation of results. Topics include formulation, solution, duality and sensitivity analysis in linear programming, integer programming, network flow models, nonlinear optimization, and dynamic programming.

436(5360) Operations Research-Stochastic Models (3)
Prerequisites: Stat 320(4200) or equivalent. (Same as MSIS 429(7352).) A study of stochastic methods and models in operations research. Provides an introduction to probabilistic models for decision making under uncertainty. Topics include stochastic processes, queuing theory and models, probabilistic inventory theory and models, Markovian decision problems, simulation and reliability.

437(5370) Quality Management (3)
Prerequisite: MSIS 481(5300) or Stat 320(4200) or consent of instructor. (Same as MSIS 430(5326).) An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approaches are discussed. Topical coverage includes the construction and interpretation of control charts, graphical methods, quality function deployment, robust experiments for product design and improvement, mistake-proofing (poke-yoke), the Deming approach, Baldrige award criteria, quality cost audits, worker empowerment and reward systems. Cases involving both business processes and physical processes are used to illustrate successful quality improvement efforts.

439(5810) Topics in Number Theory (3)
Prerequisite: Consent of instructor. Topics selected from elementary, algebraic, analytic, and other branches of number theory. Examples of topics include the distribution of primes, the Riemann Zeta function, averages of arithmetic functions, the theory of partitions, ideal theory, and representations of integers by quadratic forms.

442(5420) Algebra (3)
Prerequisites: Math 340(4400) and 345(4450). Basic fundamentals of the theory of groups, rings and fields.

444(6440) Lie Groups (3)
Prerequisites: Math 340(4400) and 411(5110). The course provides an introduction to Lie Groups, Lie Algebras, and their representations.

448(5820) Topics in Algebra (3)
Prerequisite: Consent of instructor. Topics selected from the theory of groups, rings, fields, algebras, and other algebraic systems. May be taken more than once for credit with consent of department.

450(5500) Directed Readings (1-6)
Prerequisite: Consent of instructor. Independent readings at an advanced level.

452(5550) Topics in Advanced Mathematics for the Teacher (3)
Prerequisite: Consent of instructor. This course will look at various topics in algebra, analysis, and geometry that will deepen a teacher's understanding of the mathematics of the precollegiate curriculum. It can be taken more than once for credit.

460(5040) Calculus of Variations (3)
Prerequisites: Math 202(2020), 310(4100) and 345(4450). Classical functionals, minimization of functionals, Euler-Lagrange equations, appropriate function spaces, weak solutions, existence of solutions, approximation theory, practical applications and finite element approach to solutions will be covered.

470(6700) Functional Analysis (3)
Prerequisites: Math 345(4450) and 410(5100). Algebraic and topological tools applied to problems in analysis. The topics chosen will usually include topological vector spaces, metric spaces, Banach spaces, Hilbert spaces, and Banach algebras.

488(5800) Topics in Topology (3)
Prerequisite: Consent of instructor. The course will cover topics selected from algebraic or differential topology and may be taken more than once for credit with the consent of the department.

490(6900) Master's Thesis (1-6)
Prerequisite: Consent of instructor. Thesis work under the supervision of a faculty member. The course is designed for those students intending to present a thesis as part of their M.A. program. Students who do not write a thesis cannot apply Math 490(6900) to a degree.
499(7990) Ph.D. Dissertation Research (1-9)
Prerequisites: Completion of comprehensive. May be taken for no more than nine hours.

Computer Science

101(1010) Introduction to Computers and the Internet (3)
Prerequisites: Same as for Math 20(1020) and Math 30(1030). Covers basic concepts and components of a PC, including microprocessor, disk, display, multimedia, printers, scanners, backup; survey of popular applications including e-mail, personal information managers, word processors, spreadsheets; brief discussion of computer languages; networking, terminology, methods for accessing information on remote computers; dialup access to computers including use of modems; overview of the Internet, popular browsers, World Wide Web, search engines, FTP, utilities, Hyper Text Markup Language, tools for Web page construction, security, privacy. Credit not granted for both CS 101(1010) and BA 103(1800).

122(1220) Computers and Programming (3)
Prerequisite: Math 80(1800) or 100(1100), or a grade of at least B in Math 30(1030). An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of the FORTRAN language will be studied including basic data types, subroutines and functions, arrays, and files. Credit not granted for both BA 104(1804) and CS 122(1220).

125(1250) Introduction to Computing (3)
Prerequisite: Math 80(1800) or 100(1100), or a grade of at least B in Math 30(1030). An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of a high level language such as Pascal or C will be studied, including elementary and advanced data types and subprograms. Various features of the UNIX operating system will also be discussed.

170(1050) User Interface Design and Event-Driven Programming with Visual Basic (3)
Prerequisite: Computer Science 125(1250) or knowledge of some programming language and consent of the instructor. This course explores programming in Visual Basic for event-driven applications. Design and implementation of graphical user interfaces (GUI) are explored as primary examples. Additional topics may include DDE, OLE, and interactions with databases.

201(2010) An Introduction to Java and Internet Programming (3)
Prerequisite: Math 30(1030). Introduces the Java programming language and its use in Internet programming. This course will involve programming assignments in Java and their interface with browsers using applets. Students will also be exposed to the Java's windows toolkit -- the AWT. A brief introduction to object-oriented programming concepts will be provided. Other topics will include threads, virtual machines, byte code, and the Java security model.

225(2250) Programming and Data Structures (3)
Prerequisite: CS 125(1250). A continuation of CS 125(1250). Advanced programming techniques including recursion, divide-and-conquer, and backtracking will be considered. A discussion of dynamic data structures such as lists, binary trees, stacks, queues, and symbol tables will be presented. An introduction to modular programming, program specification and verification, and analysis of algorithms will be given.

240(2700) Computer Systems: Architecture and Organization (3)
Prerequisite: CS 225(2250). Introduces details of computer systems from architectural and organizational points of view. Topics discussed may include data representation, digital logic and basic circuits such as ALU, multiplexers, decoders, flip-flops, registers, RAM and ROM memory, memory hierarchies, I/O devices, pipelining, parallel and RISC architectures, etc.

241(2710) Computer Systems: Programming (3)
Prerequisite: CS 240(2700). Continues introduction of computer systems, with assembly programming and its application. Topics covered may include addressing modes, stack manipulations and applications for reentrant and recursive modules, memory interfacing, I/O device interfacing, and serial and parallel communication.

255(3000) Discrete Structures (3)
Prerequisites: Math 175(1900) or 100(1100), and CS 125(1250) or equivalent. (Same as Math 255(3000). Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than one of CS 255(3000), Math 250, and Math 255(3000).

273(2210) The C Programming Language (3)
Prerequisite: CS 225(2250) or the equivalent. The C language is introduced together with the associated tools which make up the UNIX C programming environment. The course is project-oriented and a portion of the practical work will involve UNIX systems programming. This course is intended for students who have completed the equivalent of CS 125(1250) and CS 225(2250) but without the C language. It may not be taken for credit if the student has taken CS 225(2250) with C.
274(2260) Object Oriented Programming with C++ (3)
Prerequisite: CS 225(2250). Introduces object-oriented concepts, terminology, and notation. The C++ language is explored, including topics such as dynamic memory, exception handling, function and class templates, operator overloading, inheritance, polymorphism, and generic programming with the standard template library. Additional topics may include GUI libraries.

275(2750) Advanced Programming with Unix (3)
Prerequisite: CS 225(2250). Exploration of the Unix operating system, including its tools and utilities for program development, such as makefile, piping and redirection, shell scripts, regular expressions, and symbolic debuggers. In addition, this course explores advanced features of the C programming language, including various file processing, command-line and variable arguments, exception handling and generic interfacing.

278(3130) Design and Analysis of Algorithms (3)
Prerequisites: CS 225(2250), CS/Math 255(3000), Math 245(2450) and Stat 132(1320). Addresses the design and mathematical analysis of fundamental algorithms in computer science. Algorithms studied may involve search, sorting, data compression, string manipulation, graph traversal and decomposition, and algebraic and numeric manipulation.

301(4010) Web Programming Techniques (3)
Prerequisites: CS 275(2750). Provides an introduction to Web page development using current technologies such as HTML and XML. Programming in such languages as Perl, CGI scripting, Java script and Java. The current Web servers are compared for issues such as technology, capacity planning, and installation.

302(4020) Java and Internet Programming (3)
Prerequisites: CS 301(3010). A projects-oriented course using the Java programming language for Internet programming. The course focuses on current technologies in Java such as GUI toolkits, threads, the Java security model, and JavaBeans. Other topics may include sockets, IO Streams, server-side Java, and remote method invocation.

304(4040) Electronic Commerce Protocols (3)
Prerequisites: CS 275(2750) and Math 245(2450). Provides a technical introduction to electronic commerce over the Internet, examining topics such as electronic data interchange, digital currency, and electronic catalogs. The course discusses technical issues such as telecommunications infrastructure, data warehousing, software agents, and storage retrieval of multimedia information. Other topics may include cryptographic techniques as applicable to web-site development, management of data in a secure manner, authentication and confidentiality, different levels of security (transaction, network, and protocol), and digital signatures.

305(4050) User Interface Development (3)
Prerequisites: CS 275(2750). Focuses on user interface design standards as a programming problem. It covers topics such as functional vs. aesthetic concerns, elegance and simplicity, interference between competing elements, visual variables, perceptual organization for visual structure, grid-based design of module and program, semiotics with images and representation.

314(4140) Theory of Computation (3)
Prerequisites: CS 278(3130). Covers finite state machines and pushdown automata, and their relationship to regular and context-free languages. Also covers minimization of automata, Turing machines, and undecidability. Other topics may include Church's Thesis, uncomputability, computational complexity, propositional calculus and predicate calculus.

325(4250) Programming Languages (3)
Prerequisites: CS 274(4740). A study of the principles of modern programming languages. The students perform a comparative study of syntax, semantics, and pragmatics of high-level programming languages. Also provides a discussion of list-processing, object-oriented, functional, procedural, or other programming paradigms.

328(4280) Program Translation Techniques (3)
Prerequisites: CS 240(2700), CS 274(2260), CS/Math 255(3000), Math 245(2450). Looks at the theory of programming languages as well as the theory of program translation as a means for dealing with the conceptual gap introduced by the levels of abstraction. Program translation mechanisms are studied as a means to explore the tradeoff between language expressiveness, translation, and execution effectiveness. Particular attention is paid to compilers, with emphasis on constraints induced by syntax and semantics.

330(4300) Introduction to Artificial Intelligence (3)
Prerequisites: CS 274(2260), CS 275(2750) and CS 278(3130). An overview of AI applications is presented. An AI programming language, such as Prolog or Lisp, is introduced. Fundamental AI problem solving techniques are applied to heuristic search and game playing. An introduction to knowledge representation and expert systems is given. Topics such as theorem proving, neural networks, and natural language processing may also be studied.

341(4410) Computer Graphics (3)
Prerequisites: CS 274(2260), CS 275(2750) and CS 278(3130). The basic architecture of various types of graphics systems is presented. Also presents a detailed description of the basic algorithms for 2-dimensional and 3-dimensional graphics systems. Algorithms for shading, hidden line removal, and rendering in the 3-D systems will be examined. The course involves significant project work.
344(4440) Digital Image Processing (3)  
Prerequisites: CS 274(2260), CS 275(2750) and CS 278(3130). Focuses on low-level image processing data structures and algorithms for binary image processing, region and texture analysis, image filtering, edge detection, and contour following. Other topics include coding for storage, retrieval, transmission, and image restoration.

350(4500) Software Engineering (3)  
Prerequisites: CS 274(2260) and CS 275(2750). Introduces software engineering as a discipline, discusses stages of software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools.

352(4520) Object-Oriented Analysis and Design (3)  
Prerequisites: CS 350(4500). Concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. Discusses the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling with patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool.

354(4540) Software System Architectures (3)  
Concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. Covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design supports for distributed and client-server applications, design patterns, package interfaces, notation, persistence, and GUI frameworks.

356(4560) Software Development Processes (3)  
Prerequisites: CS 350(4500) or CS 352(4520). This course is an in-depth study of software development processes, in the context of an actual project. Discussion includes object-oriented processes such as Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools.

361(4610) Database Management Systems (3)  
Prerequisites: CS 275(2750) and CS 278(3130). Presents the foundations, concepts and principles of database design. Various models of data representation are considered, including the hierarchical and relational models. Also considers some of the implementation issues for database systems.

362(4620) Information Retrieval (3)  
Prerequisites: CS 275(2750) and CS 278(3130). Presents deterministic models of information retrieval systems, including conventional Boolean, fuzzy set theory, p-norm, and vector space models. Other topics include probabilistic models, text analysis and automatic indexing, automatic query formulation, system-user adaptation and learning mechanisms, evaluation of retrieval, review of new theories and future directions, and intelligent information retrieval.

373(4730) Computer Networks and Communications (3)  
Prerequisite: CS 275(2750) and Statistics 132(1320). Communication systems will be considered in the context of the ISO standard for systems interconnection. Various types of networks will be studied including wide area networks, local area networks, and fiber optic networks.

374(4740) Client-Server Architectures (3)  
Prerequisites: CS 275(2750) and Math 245(2450). Studies communications systems in the context of the ISO standard for systems interconnection. There is hands-on exposure to development of client-server applications.

376(4760) Operating Systems (3)  
Prerequisites: CS 275(2750), CS 240(2700), Statistics 132(1320) and Math 245(2450). Studies the structure of a generic operating system, considering in detail the algorithms for interprocess communication, process scheduling, resource management, memory management, file systems, and device management. Topics in security may also be examined. Examples from pertinent operating systems are presented throughout, and use of the algorithms in modern operating systems is examined. Substantial practical work, using the UNIX operating system is required.

377(4770) Operating Systems for Telecommunications (3)  
Prerequisites: CS 352(4520) or MS/IS 423(6806). The structure of a general operating system will be studied. The various components, including the interface with the underlying hardware, will be considered in detail. UNIX and Windows/NT will be considered as case studies throughout the course. The course will also emphasize hands on experience as a power user of at least one modern operating system.

378(4780) Systems Administration and Computer Security (3)  
Prerequisites: CS 275(2750). Identifies and studies major issues of relevance to systems and networks management. Covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. Discusses the latest advances in network management tools and computer security protocols.
388(4880) Individual Studies (1-3)  
Prerequisites: CS 275(2750) and consent of instructor. Allows a student to pursue individual studies under the supervision of a faculty member. May include development of a software project. May be repeated for credit.

389(4890) Topics in Computer Science (3)  
Prerequisite: Consent of instructor. A seminar on special topics in computer science to be determined by recent developments in the field and the interests of the instructor. May be repeated for credit with departmental consent.

413(5130) Advanced Data Structures and Algorithms (3)  
Prerequisites: An elementary course in analysis of algorithms or consent of the instructor. This course covers analysis of time and space complexity of iterative and recursive algorithms along with performance bounds, design of data structures for efficient performance, sorting algorithms, probabilistic algorithms, divide and conquer strategies, various algorithms on graphs, and NP completeness.

427(5780) Systems Administration (3)  
Prerequisite: (CS 376(4760) or 377(4770)) and MSIS 496(6836). The course will identify and study major issues of relevance to systems and networks management. It covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. The course will discuss the latest advances in network management tools and computer security protocols.

432(5320) Introduction to Evolutionary Computation (3)  
Prerequisite: CS 330(4300), or consent of instructor. This course introduces the concepts of nature-inspired problem solving, population dynamics, Darwinian selection, and inheritance. It discusses problems applicable to evolutionary algorithms, overviews the existing models and instances, and analyzes specific instances such as genetic algorithms and genetic programming.

434(5340) Introduction to Machine Learning (3)  
Prerequisite: CS 330(4300), or consent of instructor. This course introduces both symbolic and sub-symbolic approaches to machine intelligence. Specific topics covered may include data mining, supervised learning such as decision trees, and approximate methods such as fuzzy reasoning.

436(5360) Expert Systems (3)  
Prerequisites: CS 330(4300), or consent of instructor. This course concentrates on issues related to building expert systems mimicking human-level expertise, including knowledge engineering processes leading to the design, construction, and evaluation of systems, relevant languages, tools, and shells, as well as representation, quality, and inference methods.

438 (5380) Introduction to Neural Networks (3)  
Prerequisites: CS 330(4300) or consent of instructor. This course introduces the concepts of connectionism, along with algorithms for simulating neural networks, discussion of alternative networks architectures and training algorithms.

440(5400) Computer Vision (3)  
Prerequisites: Graduate standing and consent of instructor. This course introduces computational models of visual perception and their implementation on computer systems. Topics include early visual processing, edge detection, segmentation, intrinsic images, image modeling, representation of visual knowledge, and image understanding.

442(5420) Visual Data Processing (3)  
Prerequisites: Graduate standing and consent of instructor. This course introduces low-level concepts and techniques used in image processing, including methods for image capture, transformation, enhancement, restoration, and encoding.

444(5440) Pattern Recognition (3)  
Prerequisites: Graduate standing and consent of instructor. This course provides an introduction to statistical decision theory, adaptive classifiers, and supervised and unsupervised learning. Different types of pattern recognition systems are introduced, including transducers, feature extractor, and decision units. Students are exposed to the application of the techniques to optical character recognition, speech processing, and remote sensing.

450(5500) Software Engineering (3)  
Prerequisites: Graduate standing and consent of instructor. This course introduces software engineering as a discipline, discusses stages of the software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external, verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools. Topics are the same as CS 350(4500) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 350(4500) and CS 450(5500).
452(5520) Object Oriented Analysis and Design (3)
Prerequisites: CS 350(4500), CS 450(5500), or consent of the instructor. This course concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. It introduces the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling and patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool. Topics are the same as CS 352(4520) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 352(4520) and CS 452(5520).

454(5540) Software Systems Architectures (3)
Prerequisites: One of the following: CS 350(4500), CS 450(5500), CS 352(4520), CS 4525520), or consent of the instructor. This course is concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. It covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design support for distributed and client-server applications, design patterns, package interfaces, notation, persistence and GUI frameworks. Topics are the same as CS 354(4540) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 354(4540) and CS 454(5540).

456(5560) Software Development Processes (3)
Prerequisites: One of the following: CS 350(4500), CS 450(5500), CS 352(4520), CS 4525520), or consent of the instructor. This course is an in-depth study of software development processes, in the context of an actual project. Discussion will include object-oriented processes such as the Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools. Topics are the same as CS 356(4560) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 356 (4560) and CS 456(5560).

461(5610) Advanced Databases (3)
Prerequisites: Graduate standing and consent of instructor. This course is an in-depth study of database techniques, including normalization theory, object-oriented databases, statistical databases, distributed databases, and failure recovery. The course will also involve substantial readings from the current literature.

462(5620) Intelligent Information Retrieval (3)
Prerequisites: CS 330(4300) or consent of instructor. This course studies the use of AI techniques for the development of adaptive information retrieval systems. Techniques for analysis of information by statistical syntactical, and logical methods are also studied. Topics related to multimedia information are also discussed.

464(5640) Multimedia Information Systems (3)
Prerequisites: CS 341(4300) or CS 440(5400). This course studies the technical and human issues related to the design, construction, and use of computer programs that combine text, audio, video, graphics, animation, and graphical user interfaces. It also surveys applications and tools.

470(5700) Computer Systems (3)
Prerequisites: Background in computer organization or architecture or consent of instructor. This course focuses on parallel computing architectures, including RISC, pipelining, vector processing, SIMD, MIMD, and array processing. It introduces different memory and I/O subsystems, hardware description languages, and it demonstrates performance enhancement using different architectures studied.

473(5730) Client/Server Computing (3)
Prerequisite: CS 377(4770) or MSIS 496(6836). The course will study communications systems in the context of ISO standards for systems interconnection. There will be hands on exposure to development of client-server applications.

474(5740) Parallel and Distributed Computing (3)
Prerequisites: Background in computer organization or architecture, or consent of instructor. This course introduces the fundamentals of parallel computation and algorithm design. It discusses general techniques for designing efficient parallel algorithms for fixed-connection parallel network architectures such as arrays, trees, and hypercubes.

476(5760) Advanced Operating Systems and Network Management (3)
Prerequisites: CS 376(4760) or consent of instructor. This course provides a survey of contemporary operating systems principles, including overall design strategies for operating systems. The course also discusses communication and synchronization techniques for concurrent processes, and statistical analysis of job scheduling, process scheduling, I/O scheduling, and memory management.

487(5870) Computer Science Seminar (1-3)
Prerequisites: Graduate standing and consent of instructor. This is a seminar on various topics. Substantial student reading and participation is expected. It may be taken more than once for credit with the consent of the department.

488(5880) Computer Science Independent Project (1-3)
Prerequisites: Graduate standing and consent of instructor. This course offers the student an opportunity to work on an adviser-supervised project, individually or in a group. A student may repeat the course for up to 6 credit hours total, but at most 6 hours can be accumulated for CS 488(5880) and CS 490(6900).
489(5890) Topics in Computer Science (1-3)
Prerequisites: Graduate standing and consent of instructor.
This course offers various topics not offered on a regular basis. It may be taken more than once for credit with the consent of the department.

490(6900) Thesis (1-6)
Prerequisites: Completion of at least 12 graduate credits and approval of research topic by thesis adviser. This course is designed for those students intending to present a thesis as part of their M.S. program. At most 6 hours can be accumulated for CS 489(5890) and CS 490(6900).

Probability and Statistics
31(1310) Elementary Statistical Methods (3)
Prerequisite: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency exam. An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course in the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 31(1310), Statistics 132(1320), and Math 105(1105).

132(1320) Applied Statistics I (3)
Prerequisite: Math 80(1800) or 100(1100). An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course is the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 31(1310), Statistics 132(1320), and Math 105(1105).

232(2320) Applied Statistics II (3)
Prerequisite: Statistics 132(1320), or equivalent. Focuses on data analysis using a number of statistical tools. Topics will be chosen from regression, analysis of variance, contingency tables, and various non-parametric techniques. The emphasis is on practical applications. A computer software package such as SAS will be used for the analysis of data.

320(4200) Mathematical Statistics I (3)
(Same as Math 320(4200).) Prerequisites: Statistics 132(1320) and Math 180(2000). Introduction to theory of probability and statistics using concepts and methods of calculus.

321(4210) Mathematical Statistics II (3)

326(4260) Introduction to Stochastic Processes (3)

330(4300) Multivariate Analysis (3)
Prerequisites: Math 245(2450) and Statistics 320(4200), or consent of instructor. Multivariate normal distribution and related sampling distributions. Procedures of statistical inference for the multivariate normal distributions, such as hypothesis testing, parameter estimations, multivariate regression, classification and discriminant analysis and principal components analysis.

331(4310) Analysis of Variance and Design of Experiments (3)
Prerequisites: Math 245(2450) and Statistics 320(4200) or consent of instructor. An introduction to the analysis of variance with applications in completely randomized designs, randomized block designs, factorial experiments and split-plot type designs.

332(4320) Regression Models in Statistics (3)
Prerequisites: Statistics 232(2320) or consent of instructor. A rigorous course focused on the applications of regression. The course is rigorous in that the basic regression models in one and several variables are carefully developed using matrix notation. Topics such as the extra sums of squares principle, the general linear hypothesis, and partial and sequential F-tests are carefully presented. The course will focus on using these tools to analyze many different data sets.

333(4330) Nonparametric Methods in Statistics (3)
Prerequisite: Statistics 320(4200) or consent of instructor. An introduction to nonparametric statistical procedures. Order statistics, rank order statistics and scores, tests of goodness of fit, linear rank tests for the location and scale problems and applications.

339(4390) Topics in Probability and Statistics (3)
Prerequisite: Consent of instructor. A seminar on special topics in probability and statistics to be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.
Department of Philosophy

Faculty

Ronald Munson, P
Professor, Chairperson*
Ph.D., Columbia University

Robert M. Gordon, Professor*
Ph.D., Columbia University

Lynn Hankinson Nelson, Professor*
Ph.D., Temple University

Stephanie A. Ross, Professor*
Ph.D., Harvard University

Paul A. Roth, Professor*
Ph.D., University of Chicago

Lawrence H. Davis, Associate Professor*
Ph.D., University of Michigan

Piers Rawling, Associate Professor*
Ph.D., University of California-Berkeley

Jon McGinnis, Assistant Professor*
Ph.D., University of Pennsylvania

Thaddeus Metz, Assistant Professor*
Ph.D., Cornell University

Eric Wiland, Assistant Professor*
Ph.D., University of Chicago

Andrew Black, Affiliate Assistant Professor
Ph.D., University of Massachusetts-Amherst

Buckeroed, James G., Affiliate Assistant Professor
Ph.D., Rutgers University

Donald W. Mertz, Affiliate Associate Professor
Ph.D., Saint Louis University

David J. Greisdieck, Senior Lecturer
M.A., Princeton University

*members of Graduate Faculty

Peter Fuss, Professor Emeritus*
Ph.D., Harvard University

John E. Clifford, Associate Professor Emeritus*
Ph.D., University of California-Los Angeles

David A. Conway, Associate Professor Emeritus*
Ph.D., Princeton University

Henry L. Shapiro, Assistant Professor Emeritus*
Ph.D., Columbia University

Philosophy continues to keep alive the tradition begun by Socrates, Plato, and Aristotle of critically examining one's most cherished assumptions. Moreover, it deals with questions that are common to several areas of inquiry, such as art, ethics, the social sciences, the natural sciences, and the various professions. The study of philosophy also encourages logical precision, a heightened awareness of assumptions used in any discussion, and an attitude of both open-mindedness and responsible criticism toward new and unusual ideas. These skills are particularly useful for students planning careers in law, business, computer science, writing, or other fields requiring such disciplines of mind. For these reasons many students have found it useful to combine a major in another field with a major in philosophy. To accommodate such students, the department has a special program for double majors.

The philosophy faculty has an unusually wide range of research interests. Faculty members have written books and articles addressing not only the classical and traditional concerns of philosophy, but contemporary controversies in the fields of law, psychology, sociology, political theory, biology, medical ethics, theology, logic, and philosophy of history as well. For their research in some of these areas, members have been awarded a number of national research grants, including fellowships from the American Council of Learned Societies and the National Endowment for the Humanities.

In keeping with this emphasis on diversity, the department is represented by scholars trained in widely different approaches to philosophy, such as the analytic tradition, Continental idealism and existentialism, Marxist dialectic, and Asian modes of thought.

General Information

Degrees and Areas of Concentration
The philosophy department offers two options leading to the B.A. degree in philosophy. The first is for students intending to enter graduate school in philosophy, the second is for students seeking a general liberal arts education as their ultimate academic objective, or preparing for professional degrees such as law. Each option offers a balance between training in the techniques of logical analysis, study of philosophical classics, and examination of selected problems in philosophy. The department also offers a minor in philosophy for students wishing to pursue a particular interest in philosophy in an organized way.

Undergraduate Studies

General Education Requirements
 Majors must meet the university and college general education requirements. Philosophy 120(1120), Asian Philosophy, and Philosophy 125(1125), Islamic Philosophy, also satisfies the college Cultural Diversity requirement. Majors may not count philosophy courses taken on a satisfactory/unsatisfactory basis toward the degree requirements.

Degree Requirements

Bachelor of Arts in Philosophy
 Students must complete one of the following programs. At least 30, but not more than 45, hours are required for a major. A minimum of 18 hours must be taken in residence from the Philosophy Department at UM-St. Louis, including all courses for the major at or above the 200 level.
Option One: The Major in Philosophy: Thirty hours of course work is required:

1) Philosophy 160(3360), Formal Logic
2) History of Philosophy
   12 hours in history of philosophy, at least 6 hours of which must be at the 300-level. Choose from the sequences Philosophy 101-107(3301-3307); Philosophy 301-322(4401-4407) Philosophy 10(1110) and 11(1111) together count as one 100 level history course.

3) Normative Philosophy
   One course from the following:
   Philosophy 330(4430), Social and Political Philosophy
   Philosophy 335(4435), Classical Ethical Theories
   Philosophy 338(4438), Recent Ethical Theory
   Philosophy 274(3374), Philosophy in Art
   Philosophy 374(4474), Topics in Aesthetics (Philosophy 374(4474) cannot be used to satisfy both the normative requirement and requirement #5 below—the "other disciplines" requirement.)

4) Core Requirement
   One course from the following:
   Philosophy 340(4440), Theories of Knowledge
   Philosophy 345(4445), Metaphysics

5) Philosophy and Other Disciplines
   One course from the Philosophy 370(4470) – 390(4490) sequence.

6) Philosophy 391(4491), Senior Seminar

7) Other than the courses specified above, only courses at the 200-level or above satisfy the course work requirement for the major. Video courses cannot be used to satisfy course requirements for this program.

When appropriate, Philosophy 351(4451): Special Topics in Philosophy, may be used to satisfy the requirement of number 3, 4, or 5.

Students in this program should take Greek, Latin, French, or German to satisfy the foreign language requirement.

Option Two: The double major. Twenty-four hours of course work are required.

1) Philosophy 160(3360), Formal Logic or Philosophy 60(1160): Logic and Language (Formal Logic is strongly recommended)

2) History of Philosophy: six hours in history of philosophy, at least three hours of which must be at the 300(4000) level. Choose from the sequences Philosophy 101-107(3301-3307); Philosophy 301-322(4401-4422). Philosophy 10 and 11(1110 & 1111) together count as one 100-level history course.

3) A total of nine hours or more at the 300- level other than courses used to satisfy (2) and (4). Video courses cannot be used to satisfy course requirements for this program.

4) Philosophy 391(4491), Senior Seminar

Departmental Honors Majors with a 3.2 grade point average or higher in philosophy and overall may, with the department's consent, earn departmental honors by:

1) Completing at least six hours, but not more than nine, of Philosophy 350(4450), Special Readings in Philosophy.

2) Submitting an acceptable thesis before the end of the senior year; and

3) Passing an oral examination.

In such cases, the 30 hours required for the major will include the credit earned in Philosophy 350(4450), Special Readings, for the senior thesis.

Related Area Requirements
Majors are urged to acquire a familiarity with some other field above the introductory level.

Transfer students planning to major in philosophy should consult the student's undergraduate advisor as soon as possible in order to have their transcripts evaluated.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. degree in philosophy from courses, which the appropriate department has evaluated as being of university-level quality, or from one or more of the following areas or their university-quality equivalents at other institutions; anthropology/archeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The Minor
Fifteen hours of course work in philosophy are required. All course work for the minor except Philosophy 160(3360) must be taken in residence from the Philosophy Department at UM-St. Louis

- Philosophy 160(3360): Formal Logic.
- A total of 12 hours at or above the 200-level, at least six of which must be at the 300-level. Video courses cannot be used to satisfy course requirements for this program.
- Minors are strongly encouraged, though not required, to take Philosophy 391(4491): Senior Seminar.
A GPA of 2.0 or better is required in courses presented for the minor. Prospective minors are encouraged to consult with members of the department for advice in planning an appropriate sequence of courses.

Graduate Studies

2+3 B.A. and M.A. in Philosophy

The Combined B.A./M.A. Program in Philosophy provides an opportunity for students of recognized academic ability and educational maturity to fulfill integrated requirements of undergraduate and master's degree programs in three years from the beginning of their junior year. When all the requirements of the B.A./M.A. program have been completed, students will be awarded both the B.A. and M.A. degrees. With a carefully designed program, a student can earn both degrees within as few as ten semesters.

The Combined Program requires a minimum of 138 credit hours, of which at least 36 must be at the upper division level (course numbers in the 300-499 range). In qualifying for the B.A.; students must meet all university and college requirements, including all the requirements of the regular undergraduate major in Philosophy described above. Students will normally take Philosophy 160(3360): Formal Logic and two courses in the 101-107(3301-3307) History of Philosophy sequence in their junior years, along with electives. (Any courses still needed to satisfy college foreign language and expository writing requirements would also be taken during this year.) Philosophy 391(4491): Senior Seminar and more specialized courses are taken in the senior year. In the fifth year, students take advanced electives and such required courses as are needed to fulfill remaining university, Graduate School, and departmental requirements for the M.A. This includes satisfactory completion of 36 graduate credit hours, at least 18 of which must be in courses numbered above 400 and among which must be at least 3 in each of the four subject areas listed above for the regular M.A. program. Students are also required to earn a passing grade in comprehensive exams in each of two of these areas. (See description below.) Up to 12 graduate credit hours may be applied simultaneously to both the B.A. and M.A. requirements. Also, students may elect to write a thesis, in which case up to 6 of the 36 hours may be taken in Philosophy 495("Thesis Research.")

Students should apply to the Graduate Committee for admission to the Combined B.A./M.A. Program in Philosophy the semester they will complete 60 undergraduate credit hours or as soon thereafter as possible. It is also recommended that students have completed the foreign language requirement and the junior level writing requirement before applying. A cumulative grade point average of 3.0 or higher and three letters of recommendation from faculty are required for consideration.

Students will be admitted to the Combined Program under provisional status until they have completed 15 credit hours in it with a grade point average of 3.0 or higher. After completion of the provisional period, and with the recommendation of the Graduate Committee, students can be granted full admission into the program. Students must maintain a grade point average of 3.0 or higher and throughout the Combined Program. Students who officially withdraw from the Combined Program, who have successfully completed all the requirements for the B.A. degree, will be awarded their B.A. degree.

PHILOSOPHY REQUIREMENTS FOR STUDENTS IN THE 2+3 PROGRAM

A. To be taken in the junior year:
Four courses (12 credit hours)
• 160(3360): Formal Logic
• Two courses in the History of Philosophy, each at the 100-level or above.
• One additional Philosophy course, at the 100-level or above.

B. To be taken in the senior year:
Six courses (18 credit hours)
• 391(4491): Senior Seminar
• Either 345(4445) Metaphysics or 340(4440): Theories of Knowledge.
• Two History courses, each at the upper division
• One course from the sequence 370 to 390(4470-4490)
• One of the following:
  330(4430): Social and Political Philosophy
  335(4435): Classical Ethical Theory
  338(4438): Recent Ethical Theory

C. To be taken in the final year of the program:
Six courses (18 credit hours)
1. At least 5 of these courses must be at or above the 400-level
2. Courses must be selected so that the student has taken at least one from each of the four subject areas:
   - History of Philosophy
   - Value Theory
   - Logic/Philosophy of Science
   - Epistemology/Metaphysics

in the course of completing the 2+3 program.

D. Graduate Exit Requirements
Each student must pass a comprehensive exam in two of the four subject areas listed in C above.

Master of Arts in Philosophy

To earn an M.A. in philosophy, students must complete at least 36 hours of graduate-level work and pass two comprehensive exams. Entering students must demonstrate a competence in logic, either by having passed the relevant course(s) prior to admission or by passing a departmental
exam. Students may elect to write a thesis, in which case up to 6 of the 36 hours may be devoted to research and writing. Two-thirds (24 credit hours) of the degree program, including the thesis for students taking that option, must be completed in residence at UM-St. Louis. In addition, the courses taken are subject to two distribution requirements:

- At least half of the courses must be at the 400-level.
- At least one course (3 credit hours) must be chosen from each of the following four subject areas: epistemology/metaphysics, history of philosophy, value theory (including aesthetics courses only with departmental approval), and logic/philosophy of science.

Cooperative arrangement with Saint Louis University. The strengths of the UM-St. Louis Philosophy Department are complemented by those of the Saint Louis University Philosophy Department, which has strengths in the history of philosophy as well as in philosophy of religion. To enhance students' opportunities for instruction and expertise, the two departments have worked out a cooperative arrangement that permits graduate philosophy students on each campus to take up to four courses at the partner institution. In any given semester, UM-St. Louis graduate students must take at least half of their courses at their home institution. Students admitted to the M.A. program on a probationary basis must take all their courses at UM-St. Louis during their first semester.
Course Descriptions

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the Fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin: 10(1110), 11(1111), 30(1130), 50(1150), 60(1160), 85(1185), 90(1090), 91(1091), 101(3301), 102(3302), 103(3303), 104(3304), 105(3305), 107(3307), 120(1120), 125(1125), 150(2250), 151(2251), 152(2252), 153(2253), 154(2254), 156(2256), 158(2238), 160(3360), 165(3365), 174(2274), 175(2275), 180(2280), 185(3385), 269*(3369), 272(3372), 274(3374), 280(3380), 301(4401), 302(4402), 305(4405), 306(4406), 307(4407), 308(4408), 309(4409), 310(4410), 315(5515), 320(4420), 321(4421), 322, 330(4430), 335(4435), 338(4438), 339(4439), 340(4440), 345(4445), 350(4450), 351(4451), 352(4452), 353(4453), 360(4460), 365(4465), 369(4469), 370(4470), 374(4474), 376(4476), 378(4478), 379(4479), 380(5580), 381(2281), 382(4482), 383(4483), 384(4484), 385(4485), 387(4487), 390(4490), 391(4491).

*These courses fulfill the Cultural Diversity requirement

[CD] Phil 120(1120), 125(1125).

10(1110) Western Philosophy I: Antiquity to the Renaissance (3) [V,H]
Lectures and discussions tracing the development of Western philosophy from its beginnings among the pre-Socratics through the Middle Ages and Renaissance. Philosophical ideas will be examined in the cultural and historical context: the Greek city-state, the rise of Christianity, etc.

11(1111) Western Philosophy II: Descartes to the Present (3) [V,H]
Lectures and discussions on the development of Western philosophy from Descartes (1596-1650) to the present. Philosophical ideas will be examined with an eye to their historical and cultural setting: the rise of modern science, the industrial revolution, the rise of capitalism, etc.

30(1130) Approaches to Ethics (3) [V,H]
A study and discussion of representative topics in moral philosophy such as moral skepticism, moral objectivity, theories of obligation and value, evaluation of social institutions, and the relation between morality and science. Traditional and contemporary writers will be considered.

50(1150) Major Questions in Philosophy (3) [V,H]
A study and discussion of representative topics in philosophy such as free will and determinism, concepts of mind and body, the basis of value judgments, knowledge and belief, and the possibility of constructing a world view.

College of Arts & Sciences
Department of Philosophy

60(1160) Logic and Language (3) [V,H]
An introduction to the language and logical structure of arguments, the principles of sound reasoning, and application of these principles in a variety of contexts.

85(1185) Philosophy of Religion (3) [V,H]
A philosophical investigation of such problems as the nature of religious faith and experience, the relation of faith and reason, alternative concepts of deity, and the problem of evil.

90(1090) Telecourse: Philosophy and Other Disciplines (3) [V,H]
Video course offering. General introduction to philosophy examines its connections to works of art and related areas. Course does not satisfy any requirements for philosophy major or minor.

91(1091) Telecourse: Significant Figures in Philosophy [V,H]
Video course introduces philosophy through a survey of the ideas of some of the important figures in the history of the discipline. Course cannot be used to satisfy any requirements for philosophy major or minor.

101(3301) Ancient Philosophy (3)
Freshmen admitted by consent of department. The principal philosophical doctrines of the ancient world, with special emphasis on the philosophies of Plato and Aristotle. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

102(3302) Medieval Philosophy (3)
A critical study of the important philosophies of the period from Augustine to the Renaissance. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

103(3303) Early Modern Philosophy (3)
Principal figures in the development of rationalism, empiricism and skepticism in early modern Europe, from Descartes through Hume. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

104(3304) Kant and Nineteenth-Century Philosophy (3)
A study of Kant and such major nineteenth-century figures as Hegel and Nietzsche, Mill, and Peirce. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

105(3305) Twentieth-Century Philosophy (3)
Representative topics in contemporary philosophy, with readings selected from pragmatism, logical positivism, linguistic analysis, and existentialism. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.
107(3307) American Philosophy (3)
Prerequisite: Six hours of philosophy or consent of instructor. A study of selected American philosophers.

120(1120) Asian Philosophy (3) [CD,V,H]
Critical study of selected philosophical classics of India and China.

125(1125) Islamic Philosophy (3) [CD,V,H]
Introduction to Arabic philosophy in the Islamic classical period (roughly from mid-9th through 12th centuries). Considers philosophical and theological background and examines the thought of such notable Islamic philosophers as al-Kindi, Ibn Sina, al-Ghazali, and Ibn Rushd. Topics include proofs for the existence of God, whether the world is eternal or had a beginning, the nature of the soul and whether it is immortal, and distinction between essence and existence. Fulfills cultural diversity requirement.

150(2250) Philosophy and Current Issues (3)
A careful examination of such current social controversies as women's liberation, the ethics of abortion, public accountability of holders of high offices, and the subtler forms of racism and other prejudices. Although there is no formal prerequisite, it is recommended that students have taken, or be concurrently enrolled in, at least one other philosophy course.

152(2252) Philosophical Foundations of Criminal Justice (3) [V,H]
(Same as CCJ 152(2252). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pre-trial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey the laws? Are laws restricting civil liberty (e.g., laws against abortion, homosexuality, or drug use) permissible?

153(2253) Philosophy and Feminism (3) [V,H]
A critical examination of what various philosophers have said about issues of concern to women. Sample topics include oppression, racism, women's nature, femininity, marriage, motherhood, sexuality, pornography, the ethics of care.

154(2254) Business Ethics (3) [V,H]
A critical survey from the perspective of moral theory of businesses and business practices. Topics vary but usually include some of the following: whether the sole moral obligation of businesses is to make money; whether certain standard business practices, e.g., the creation of wants through advertising, are moral; whether businesses ought to be compelled, e.g., to protect the environment or participate in affirmative action programs.

156(2256) Bioethics (3) [V,H]
(Same as Gerontology 156(2256). An examination of ethical issues in health care practice and clinical research and in public policies affecting health care. Topics include abortion, euthanasia, health care, experimentation, informed consent, and the right to health care.

158(2258) Medicine, Values, and Society (3) [V,H]
Social, conceptual, and policy issues connected with medicine form the focus of the course. Topics may include: role played by race and gender in design of research and distribution of care; whether diseases are socially constructed categories reflecting the values of society; development of social policies that offer universal access to health care; the legitimacy of using Psychotropic drugs to enhance life, rather than treat disease. The course differs from Bioethics by emphasizing policy issues and their conceptual basis. Content of this course may vary.

160(3360) Formal Logic (3)
An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

174(2274) Philosophy and Literature (3)
Critical reading and discussion of selected literary works in terms of the philosophical problems they present.

175(2275) Philosophy and Film (3)
Study of selected films with emphasis on philosophical problems they address. Attention will be paid to film as an artistic medium and the capacities that distinguish it from other visual, and narrative, arts.

180(2280) Minds, Brains, and Machines (3) [V,H]
Introduction to basic philosophical issues in cognitive science. General topics include minds as computers; computers as minds, or the possibility of artificial intelligence that is truly intelligent; relationship between mental function and brain function. Some areas of current research, such as reasoning, vision, and emotion.

183(3383) The History of Science in Philosophical Perspective (3)
Course explores philosophical underpinnings of science, including assumptions about the nature of reality and about scientific methods, the role of logic and mathematics in science, and revolutions in science. These issues will be studied by exploring concrete examples of science, and tracing developments and changes in understandings of science. Content will vary, but the particular periods of science studied will typically include two or three of the following: ancient science, medieval science, early modern science, 19th century science, and/or 20th century science.
185(3385) Issues in Philosophy of Religion (3)
Prerequisite: Philosophy 85(1185) or Philosophy 50(1150) or consent of instructor. A careful examination of a selected topic in philosophy of religion or of philosophical issues arising in a selected religion. The topic or religion to be considered will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

258(4458) Ethics and the Computer
Prerequisites: 6 hours of course work above the level of Math 30(1030) in Math/Computer Science or at least 6 hours of philosophy or consent of instructor. Examination of ethical issues concerning the use of computers generally and software engineering in particular. Aims at developing awareness of these issues and skills for ethical decision making regarding them through careful, analytical methods. Typical issues include privacy, intellectual property, computer fraud, and others.

269(3369) The Marxist Heritage (3)
(Same as Political Science 269(3690) and Interdisciplinary 269(3690).) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

274(3374) Philosophy of Art (3)
(Same as Art 274(3374)) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

280(3380) Philosophy of Science (3)
An examination of logical and methodological problems related to the sciences, including the structure of scientific explanations, laws and theories; methods of concept formation; and confirmation and the problem of induction.

301(4401) Plato (3)
Prerequisite: Six hours of philosophy, a course in Ancient Philosophy recommended, graduate standing, or consent of instructor. A study of selected Platonic dialogues.

302 (4402) Aristotle (3)
Prerequisite: Six hours of philosophy, a course in Ancient Philosophy, recommended, graduate standing, or consent of instructor. A selective study of Aristotle's major works.

305(4405) The Rationalists (3)
Prerequisite: Six hours of philosophy, a course in Ancient Philosophy recommended, graduate standing, or consent of instructor. An examination of the philosophies of such major figures as Descartes, Spinoza, and Leibniz.

306(4406) The British Empiricists (3)
Prerequisite: Six hours of philosophy, a course in Early Modern Philosophy recommended, graduate standing, or consent of instructor. An examination of the philosophies of such major figures as Locke, Berkeley, and Hume.

307(4407) Kant (3)
Prerequisite: Six hours of philosophy, Phil 104(3304) or equivalent recommended, graduate standing, or consent of instructor. A systematic study of the Critique of Pure Reason.

308(4408) Hegel (3)
Prerequisite: Six hours of philosophy, Phil 104(3304) or equivalent recommended, graduate standing, or consent of instructor. A critical study of the writings and influence of Hegel.

309(4409) Phenomenology and Existentialism (3)
Prerequisites: Six hours of philosophy, Phil 105(3305) or equivalent recommended, graduate standing, or consent of instructor. A study of some major representatives of these schools from Kierkegaard to the present.

310(4410) Significant Figures in Philosophy (3)
Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Examination of the work of an important twentieth-century philosopher or philosophical movement. The philosopher or movement to be studied will be announced prior to registration. This is a variable content course that may be taken again for credit with approval of instructor and department chair.

315(5515) Ethics in Criminology and Criminal Justice (3)
(Same as Criminology and Criminal Justice 315(5515)). Prerequisite: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), Philosophy 153(2253), 154(2254), 156(2256), 330(4430), 335(4435), 338(4438), or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

320(4420) Topics in Non-Western Philosophy (3)
Prerequisites: Philosophy 120(1120), graduate standing, or consent of instructor. An extensive exploration of issues in some particular non-Western traditions (Islamic, Indian, or Chinese). This is a variable content course and may be taken again for credit with consent of instructor and department chair.

321(4421) The Analytic Tradition 1: Origins to Logical Positivism (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Philosophy 105(3305) and Philosophy 160(3360) strongly recommended. Course studies in depth the development of analytic philosophy through about 1950. Topics include key philosophical writings in this tradition beginning with Frege, Moore, and Russell and concluding with basic texts in logical positivism, with emphasis on Carnap, Schlick, Neurath and Hempel.
322 The Analytic Tradition II: Post-Positivism to Present (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Phil 105(3305) and Phil 160(3360) strongly recommended. Study of reactions and responses to basic analytic techniques and positivist doctrines beginning with Wittgenstein, Quine, and Sellars. Implications of these critiques for style and substance of analytic philosophy are studied, including such contemporary developments as reassessment of positivism, revival of naturalism, and "death" of philosophy.

330(4430) Social and Political Philosophy (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. An analysis of some fundamental concepts and assumptions involved in the theory and practice of social and political organization.

335(4435) Classical Ethical Theories
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Significant contributions to moral philosophy from Plato and Aristotle to Bentham and Mill.

338(4438) Recent Ethical Theory (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. A study of major contributions to twentieth-century ethics, including works by such writers as Moore, Dewey, Ross, Stevenson, Hare, and Rawls.

339(4439) Topics in Ethical Theory (3)
Prerequisite: Philosophy 335(4435), 338(4438), nine hours of philosophy, graduate standing, or consent of instructor. Formulation and evaluation of major theories in normative ethics, metaethics, and axiology. Topics include egoism, moral realism, act and rule utilitarianism, and varieties of naturalism and non-naturalism in ethics. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

340(4440) Theories of Knowledge (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of concepts and problems involved in the characterization of knowledge. Specific topics will vary, but will usually include knowledge, belief, skepticism, evidence, certainty, perception, truth, and necessity.

345(4445) Metaphysics (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of selected metaphysical topics such as substance, universals, causality, necessity, space and time, free will, being, and identity.

350(4450) Special Readings in Philosophy (3)
Prerequisite: Special consent required. Independent study through readings, reports, and conferences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

351(4451) Special Topics in Philosophy (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. A critical study of classical and/or contemporary contributions to a selected topic in philosophy. The topic to be considered will be announced prior to registration. This is a variable content course and can be taken again for credit with the consent of the instructor and department chair.

352(4452) Feminism and Science (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. This course will explore major themes and issues in feminist science scholarship, a body of research that focuses on the relationship between science and gender. Feminist research in the philosophy and history of science, and in the biological sciences, are emphasized. Issues include: the nature of objectivity, evidence, and truth; the factors that contribute to the acceptance or rejection of research hypotheses and theories; the nature and consequences of science's cognitive authority; and the relationship between science and values.

353(4453) Feminist Ethical Theory (3)
Prerequisite: Philosophy 153(2253), six hours of philosophy, or consent of instructor. Examines two classic 18th century statements of sympathy-based moral theory in the works of Adam Smith and David Hume. The course, then looks at a number of contemporary works that attempt to delineate a decisively feminist ethical theory, e.g., the work of Carol Gilligan, Nel Noddling, and Virginia Held. The course explores as well differences among female, feminist, and lesbian ethical standpoints.

357(4457) Media Ethics (3)
Prerequisite: nine hours of philosophy or nine hours of communication or consent of instructor. (Same as Communication 357(3357)). This course is concerned with some of the issues that arise from the intersection of ethics and modern media communications. Attention is given to some of the more specific concerns of media ethics, such as truth, honesty, fairness, objectivity and bias; personal privacy and the public interest; advertising; conflicts of interest; censorship and offensive or dangerous content (pornography, violence). Particular attention will be given to problems posed by the development of personal computer communications through bulletin boards, on-line services, and the Internet.

360(4460) Advanced Formal Logic (3)
Prerequisite: Philosophy 160(3360), graduate standing, or consent of instructor. Rigorous study of major developments in contemporary logic. Emphasis is given to theoretical problems and some attention is devoted to philosophical issues arising from logic.
365(4465) Theory of Decisions and Games (3)
Prerequisite: Six hours of Philosophy and junior standing, PolSci 401(6401) (or the equivalent) or consent of instructor. (Same as PolSci 306(4060). A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content is strongly recommended.

369(4469) Topics in Political Philosophy (3)
Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Critical examination of philosophical theories of democracy, individual autonomy, political community, social justice, and other selected issues in political philosophy.

370(4470) Topics in Philosophy of Language (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. Intensive examination of selected problems encountered in developing philosophical accounts of truth, reference, propositional attitudes, and related concepts. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

374(4474) Topics in Aesthetics (3)
Prerequisite: Philosophy 274(3374), graduate standing, or consent of instructor. Selected topics, such as vision and representation, musical aesthetics, and recent theorists. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

376(4476) Philosophy of History (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Discussion and analysis of some philosophical problems raised by historical inquiry, such as subjectivity, relativism, the role of value judgments, and the nature of historical explanations.

378(4478) Topics in Philosophy of Mind (3)
Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of selected topics at the interface of philosophical and psychological research. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

379(4479) Philosophy of Cognitive Science (3)
Prerequisite: Philosophy 378(4478), nine hours of philosophy, or consent of instructor. An exploration of the philosophical foundations and implications of cognitive science, a cooperative effort of philosophers, cognitive psychologists, brain scientists, computer scientists, and others to understand the relationship between the mind and the brain.

380(5580) Topics in Philosophy of Science (3)
Prerequisite: Philosophy 280(3380), graduate standing, or consent of instructor. Intensive study of selected problems in philosophy of science. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

381(2281) The Darwinian Heritage (3)
Prerequisites: Six hours of philosophy (preferably including Phil 280(3380), Philosophy of Science, as 3 of these), graduate standing, or consent of instructor. Examines contributions to science made by Darwin's Origin and Descent, reception of Darwinism by scientists, and its continuing influence in biological, bio-behavioral, and social sciences. Also considers public reactions to Darwinism, including ways in which Darwin's views, and contemporary research in evolutionary theory and genetics, have been regarded as challenging long-held beliefs about "meaning and purpose" of human life.

382(4482) Philosophy of Social Science (3)
Prerequisite: Six hours of philosophy or consent of instructor. An intensive examination of selected topics such as the nature of explanation in social science versus natural science, interpretation theory, and the postmodernism debate (e.g., Habermas, Foucault, Clifford). This course may be repeated for credit on approval by the department.

383(4483) Topics in History and Philosophy of Science (3)
Prerequisites: Six hours of philosophy, Phil 280(3380); Philosophy of Science strongly recommended, graduate standing, or three hours of history, or consent of the instructor. Course begins by exploring research methods and interpretative approaches in the history of science and problems and schools of thought in the philosophy of science. It then turns to recent developments in which links have deepened between the two disciplines through shared research tools, assumptions, and projects. This is a variable content course and may be taken again for credit with consent of instructor and the department chair.
384(4484) Topics in History and Philosophy of Medicine (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Focuses on the rise of philosophical issues associated with scientific medicine, including the emergence of physiology, identification of infectious and genetic diseases; development of effective drugs; rise of diagnostic and therapeutic technologies. Topics may include: disease concepts, the classification of diseases, logic of clinical diagnosis, medical explanation, and clinical decision-making. Topics may also include development of special medical areas such as immunology, cancer treatments, or organ transplantation. This is a variable content course and may be taken again for credit with consent of instructor and the department chair.

385(4485) Topics in Philosophy of Religion (3)
Prerequisite: Philosophy 185(3385), nine hours of philosophy, or consent of instructor. An intensive study of problems arising out of traditional and contemporary philosophical theology. This is a variable content course and may be taken again for credit with the consent of the instructor and the department chair.

387(4487) Topics in Philosophy of Law (3)
(Same as CCJ 233(4487).) Prerequisite: CCJ 010(1100) and 3 hours of philosophy, graduate standing or consent of instructor. An intensive study of recent philosophical debate about such issues as the authority of law, legal equality and justice, legal responsibility, self-determination and privacy, and legal punishment. This is a variable content course and may be taken again for credit with consent of the instructor and the department chair.

390(4490) Philosophical Issues in Other Disciplines (3)
Prerequisite: Nine hours in philosophy, graduate standing, or consent of instructor. An examination of selected philosophical issues in a discipline other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, chemistry, physics, or mathematics will be chosen, and philosophical issues selected and announced prior to registration, usually in consultation with the other department concerned. This course is normally taught as a seminar and attempts to serve advanced students in other departments with or without previous background in philosophy. This is a variable content course and may be taken again for credit with the consent of the instructor and the department chair.

391(4491) Senior Seminar (3)
Prerequisites: Senior standing; at least 12 hours of philosophy at the 100-level or above; or consent of instructor. Intensive study of a central philosophical problem. The course emphasizes the fundamentals of philosophical writing and scholarship. Students will write a major paper to be evaluated by two members of the Philosophy Department and the course instructor.

410(4410) Seminar in Significant Figures in Philosophy (3)
Prerequisites: Graduate standing. In-depth study of work of a single philosopher. Philosopher selected will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

421(4421) The Analytic Tradition (3)
Prerequisites: Graduate standing or consent of instructor. Course will focus on selected topics within the range of analytic philosophy. Topics may be historical (e.g., development of logicism, the reassessment of positivism) or contemporary, e.g., issues in philosophical semantics or post-analytic conceptions of philosophy.

430(5530) Seminar in Social and Political Philosophy (3)
Prerequisites: Graduate standing or consent of instructor. An intensive study of contemporary philosophical debate about such issues as civil liberty, economic justice, political decision-making, and state authority. Variable content course and may be taken again for credit with consent of instructor and department chair.

431(5531) The Nature of Punishment (3)
(Same as CCJ 431(5531).) Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

432(5533) Philosophy of Law (3)
(Same as CCJ 433(5533).) Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

438(5538) Seminar in Ethical Theory (3)
Prerequisites: Graduate standing or consent of instructor. Answers questions from normative ethics or metaethics, which may include the following: What do all morally wrong actions have in common? What does the word "wrong" mean? How, if at all, can we verify moral judgements? Are any moral judgements valid for all societies? Do we always have good reason to be moral?

440(5540) Seminar in Epistemology (3)
Prerequisites: Graduate standing or consent of instructor. Close study of selected topics, texts, or individuals in epistemology. Topics may include (but are not limited to) theories of justification, naturalism in epistemology, and conceptions of knowledge. This is a variable content course and may be taken again for credit with consent of instructor and department chair.
445(5545) Seminar in Metaphysics (3)
Prerequisites: Graduate standing. Intensive study of a selected topic or problem area in metaphysics, e.g., mind-body identity, nature of the self, or conception of time. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

451(5551) Special Readings in Philosophy (3)
Prerequisites: Graduate standing, written consent of instructor. Independent study through readings, reports, and conferences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

455(5555) Ethical and Legal Issues in Criminal Justice (3)
(Same as Criminology and Criminal Justice 455(5555)).
Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology, and research and professional ethics.

460 (5560) Seminar in Logic (3)
Prerequisites: Graduate standing. Focused study of topics in logic and/or its history. Representative topics include Aristotelian logic, modal logic, Gödel incompleteness theorems, relevance logic, paraconsistent logic, free logic. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

473 Philosophy of Education (3)
Prerequisites: Graduate standing or consent of instructor. Same as Educational Foundations 421(6421). Critical examination of selected issues in education from the perspective of Western philosophy. Topics may include the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the role of public educational institutions.

478 Seminar in Philosophy of Mind (3)
Prerequisites: Graduate standing. Topics may include functionalism and physicalism; representation and nature of propositional attitudes such as belief, desire, and various emotions; folk psychology and knowledge of other minds; introspection and knowledge of one's own mind; conscious and unconscious mental states and processes. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

479(5579) Seminar in Philosophy of Cognitive Science (3)
Prerequisites: Graduate standing. General topics include role of computation in cognitive science, merits of symbolic computation and connectionism, aims and methods of artificial intelligence, and relationship between cognitive science and our everyday understanding of people. Specific topics may include perception, reasoning, consciousness, language, emotion, and will. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

480(5580) Seminar in Philosophy of Science (3)
Prerequisites: Graduate standing or consent of instructor. Focus on recent issues and controversies. Topics may include theories and observation, models of explanation, confirmation, realism and antirealism, empiricism and naturalism, "social construction" and feminist views of science. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

482(5582) Seminar in Philosophy of Social Science (3)
Prerequisites: Graduate standing of consent of instructor. Intensive examination of selected topics, e.g., nature of explanation in social science, postmodernism debate (e.g., Habermas, Foucault, Clifford), or relation of social to natural sciences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

490(5590) Philosophical Issues in Other Disciplines (3)
Prerequisites: Graduate standing or consent of instructor. Examination of selected philosophical issues in disciplines other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, chemistry, physics, or mathematics will be chosen. The discipline(s) and issues selected will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

495 Thesis Research (3)
Prerequisites: Graduate standing or consent of instructor. May be repeated once for credit with consent of instructor and department chair.
Department of Physics and Astronomy

Faculty

Bruce A. Wilking, Professor*, Chairperson
Ph.D., University of Arizona

Jacob J. Leventhal, Curators' Professor*
Ph.D., University of Florida

Frank Edward Moss, Curators' Professor*
Ph.D., University of Virginia

Ta-Pei Cheng, Professor*
Ph.D., Rockefeller University

Bernard Joseph Feldman, Professor*
Ph.D., Harvard University

Ricardo A. Flores, Professor*
Ph.D., University of California-Santa Cruz

Peter Herwig Handel, Professor*
Ph.D., University of Bucharest

Bob Londes Henson, Professor*
Ph.D., Washington University

Richard Dean Schwartz, Professor*
Ph.D., University of Washington

Grant Vincent Welland, Professor*
Ph.D., Purdue University

Philip Fraundorf, Associate Professor*
Ph.D., Washington University

Vasudevan Lakshminarayan, Associate Professor*
Ph.D., University of California-Berkeley

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Mark L. Spano, Adjunct Professor
Ph.D., University of Maryland

Mary Jane Kernan, Adjunct Associate Professor Ph.D.,
Washington University

Mary M. Leopold, Adjunct Associate Professor
Ph.D., Washington University

Lu Fei, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Jingyue Liu, Adjunct Assistant Professor
Ph.D., Arizona State University

Lucio Mule'Stagno, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Daniel J. Leopold, Research Associate Professor
Ph.D., Washington University

Aleksandr B. Neyman, Research Associate Professor
Ph.D., Dr. Sc., Saratgov State University, Russia

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration
The Department of Physics & Astronomy offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the College of Education, the B.A. in physics with teacher certification and the B.S. in education with an emphasis in physics.

The department offers meritorious junior and senior students opportunities to participate in teaching and research to help prepare them for the independent effort required in industry or graduate school. The department's faculty members have a diversity of interests and are active in various experimental and theoretical research areas.

Graduate work leading to the Master of Science in physics is also offered. The M.S. in physics program combines a sound basis in the fundamental areas of classical and modern physics from both a theoretical and an applied perspective. The program is designed to enable students with undergraduate backgrounds in physics or other technical areas to further their professional development and maintain and improve their technical development. The program is offered almost entirely in the evening to serve students who are employed locally. The department offers the Ph.D. degree in cooperation with the University of Missouri-Rolla Physics Department. Students must satisfy the UM-Rolla admission standards, and the UM-Rolla Qualifying Exam in Physics is required of UM-St. Louis Ph.D. students. However, all course work and dissertation research may be completed while the student is in residence at UM-St. Louis.

Undergraduate Studies

General Education Requirements: Majors must complete the university and college general education requirements. Any of the following courses may be used to satisfy the physical science requirement:

- Astronomy: 1(1001), 11(1011), 12(1012), 22(1022), 50(1050), 51(1051), 121(1121).
- Atmospheric Science: 1(1001).
- Geology: 1(1001), 2(1002).
- Physics: 1(1001), 11(1011), 12(1012), 111(2111), 112(2112)

Degree Requirements

All physics majors in all programs must complete the physics core curriculum. In addition to the core courses, each individual program has its own specific requirements. Required Physics, Mathematics, Chemistry, Biology, Optometry and Computer Science courses for a major or minor in physics may not be taken on a satisfactory/unsatisfactory grading basis.

Core Curriculum The following physics courses are required:

- 111(2111), Mechanics and Heat
- 112(2112), Electricity, Magnetism, and Optics
- 200(3200), Survey of Theoretical Physics
- 221(3221), Mechanics
- 223(3223), Electricity and Magnetism
- 231(3231), Introduction to Modern Physics I
Also required are:
Math 80(1800), Analytic Geometry and Calculus I
Math 175(1900), Analytic Geometry and Calculus II
Math 180(2000), Analytic Geometry and Calculus III
Math 202(2020), Introduction to Differential Equations
Chem 11(1111), Introductory Chemistry I or equivalent
Computer Science 125(1250), Introduction to Computer Science

Note: Students are urged to begin the calculus sequence (Math 80(1800), Analytic Geometry and Calculus I) as soon as possible to avoid delays in graduation.

Students with experience in digital computer programming may be excused from Computer Science 125(1250).

Bachelor of Arts in Physics The B.A. program is tailored to students wishing to preserve the option for specialization in graduate school without sacrificing the advantages of a liberal arts education. In addition to the core curriculum, including the foreign language requirement, at least three electives at the 200 or 300 level must be completed. At least 31 hours of physics courses, but no more than 45 hours, are required.

Bachelor of Science in Physics The B.S. degree provides students with five options: general physics, astrophysics, engineering physics, medical physics or optical biophysics.

General Physics Option
This option may be elected by students desiring a greater concentration in physics and mathematics and is recommended for students wishing to enter graduate study in physics. At least 49 hours, but no more than 52, are required. In addition to the core curriculum, the following physics courses are required:
304(4310), Modern Electronics
311(4311), Advanced Physics Laboratory I
323(4323), Modern Optics
331(4331), Introduction to Quantum Mechanics
341(4341), Thermal and Statistical Physics
and four electives at the 300 level in physics or astronomy.

Also required are:
Math
245(2450), Elementary Linear Algebra
303(4030), Applied Mathematics II
Chem
012(1121), Introductory Chemistry II, or equivalent
and one elective in math or computer science at or above the 200 level.

Astrophysics Option
This option may be elected by students who have interests in the aerospace sciences or anticipate graduate studies in astrophysics. At least 47 hours, but not more than 51, must be taken. In addition to the core curriculum, the following courses are required:

Physics
323(4323), Modern Optics
331(4331), Introduction to Quantum Mechanics
341(4341), Thermal and Statistical Physics
Astronomy
50(1050), Introduction to Astronomy I
51(1051), Introduction to Astronomy II
301(4301), Astrophysics
322(4322), Observational Astronomy

And one physics elective at the 300 level. With consent of the astronomy adviser, there may be substitution of Astronomy 1(1001), 11(1011), or 12(1012) for 50(1050) or 51(1051).

Also required are:
Math 245(2450), Elementary Linear Algebra
Math 303(4030), Applied Mathematics II

Engineering Physics Option
Students interested in careers in the research and development field of industry should consider this option. This program exposes the student to a basic engineering curriculum, as well as to areas of physics with industrial applications, such as electronics, modern optics, and linear analysis. At least 49 hours, but no more than 51, are required. In addition to the core curriculum, the following courses are required:

Joint Engineering
144(2310), Statics
145(2320), Dynamics
Joint Electrical Engineering
180(2800), Introduction to Electrical Networks

Physics
304(4310), Modern Electronics
311(4311), Advanced Physics Laboratory I
323(4323), Modern Optics
331(4331), Introduction to Quantum Mechanics
341(4341), Thermal and Statistical Physics
Math
132(1320), Applied Statistics I

Also required are two additional courses in computer science or numerical analysis at or above the 200 level.

Medical Physics Option
This option is designed for students who are interested in careers in various medical fields or biophysics. This option provides a strong preparation in physics, mathematics, chemistry, and biology for students who intend to apply for admission to medical schools. At least 41 hours of physics and biology combined, but no more than 51, are required. In addition to the physics core curriculum, the following physics and biology courses are required:
Physics
304(4310), Modern Electronics

Biology
11(1811), Introductory Biology I
12(1821), Introductory Biology II

and two additional physics electives at the 300 level.

Also required are:

Chemistry
12(1121), Introductory Chemistry II
261(2612), Organic Chemistry I
262(2622), Organic Chemistry II
263(2633), Organic Chemistry Laboratory

Note: With approval of the chairperson of physics and astronomy, students with strong mathematical preparations who have already completed the Physics 11(1011) and Physics 12(1012) sequence in basic physics may substitute these courses for two required core courses Physics 111(2111) and Physics 112(2112), respectively. However, this is not the recommended route because Physics 111(2111) and 112(2112) give significantly better preparation for the required junior-level physics core courses. It would be the individual student's responsibility to make up any resulting deficiencies.

Optical Biophysics Option
This program is designed for students wanting to obtain a strong biophysics emphasis that will also prepare them for the optometry program at UM-St. Louis. This 3+4 program allows students to complete their B.S. in physics and Doctor of Optometry degrees in seven years. Students can complete their B.S. in physics degree in their fourth year while starting coursework in the College of Optometry. A total of 52 hours in physics, biology, and optometry courses are required. In addition to the physics core curriculum, the following courses are required:

Physics
341(4341), Thermal and Statistical Physics

Biology
11(1811), Introduction to Biology I
12(1812), Introduction to Biology II
216(2482), Microbiology
218(2483), Microbiology Laboratory

Optometry (fourth year only)
505(8020), Geometric Optics
512(8060), Biochemistry
515(8120), Ocular Optics
516(8130), Physiological Optics Lab
519(8150), Physical Optics and Photometry Lab

Also required are:

Chemistry
12(1121), Introductory Chemistry II
261(2612), Organic Chemistry I
262(2622), Organic Chemistry II
263(2633), Organic Chemistry Laboratory

Psychology
3(1003), General Psychology
201(2201), Psychological Statistics

Note: Upon declaring physics as a major and selecting this option, students should seek an initial interview with the Director of Student Affairs and the Pre-Optometry Advisor in the UM-St. Louis College of Optometry to ensure that all prerequisites for the College of Optometry will be completed. A similar review is recommended at the beginning of the Winter Semester of the second year. In August following the completion of their second year of this program, students may apply formally to the UM-St. Louis College of Optometry and arrange to take the Optometry Admissions Test (OAT) in October of their third year. The applicant will be invited for a formal interview for acceptance into the College of Optometry professional program following receipt of a completed application in the Fall Semester of the candidate's third year. Following the formal interview with the College of Optometry at the beginning of the third year, students with a 3.0 or better grade point average in the science prerequisites for optometry and a score of 310 or better on the OAT exam may be accepted into the College of Optometry.

B.S. degree in Secondary Education with an Emphasis in Physics.
All candidates must enroll in a program that includes Levels I, II and III coursework in the College of Education. In addition, students must complete the following Science Core Courses and the courses listed under Physics Endorsement:

Science Core Courses:
Philosophy 280(3380), Philosophy of Science
Biology
11(1811), Introductory Biology I
12(1821), Introductory Biology II
Chemistry
11(1111), Introductory Chemistry I
12(1121), Introductory Chemistry II
Geology 1(1001), General Geology
Atmospheric Science 1(1001), Elementary Meteorology
Biology 120(1202), Environmental Biology or another environmental science

Physics
111(2111), Physics: Mechanics and Heat
112(2112), Physics: Electricity, Magnetism, and Optics

Physics Endorsement
Physics
200(3200), Survey of Theoretical Physics
221(3221), Mechanics
223(3223), Electricity and Magnetism
231(3231), Introduction to Modern Physics
304(4310), Modern Electronics
311(4311), Advanced Physics Laboratory I
280(4802), or Education 240(3240), Methods of Teaching Science in Secondary Schools
283(4837), Teaching Intern Seminar

Minor in Physics
Students may complete a minor in physics with the flexibility of emphasis on classical physics, modern physics, or a combination of the two areas. The following physics courses are required:

111(2111), Mechanics and Heat
112(2112), Electricity, Magnetism, and Optics
200(3200), Survey of Theoretical Physics
and two additional emphasis courses chosen from the following physics courses:
221(3221), Mechanics
223(3223), Electricity and Magnetism
231(3231), Introduction to Modern Physics
304(4310), Modern Electronics

A GPA of at least 2.0 is required in courses presented for a minor. It is required that a student completes a minimum of 6 hours of graded work in 100 level or above courses on the UM-St. Louis campus.

Graduate Studies

Admission Requirements
The department requires applicants to have adequate backgrounds in such areas as mechanics, thermodynamics, electromagnetism, optics, electronics, and modern physics. Students admitted to the program with deficiencies in these areas are required to take appropriate undergraduate courses. If necessary, a remedial program is determined in consultation with the department graduate studies director at the time of application for admission.

Graduate Degree Requirements

Master's
A student must complete 30 credit hours in graduate physics courses with at least 15 of these at the 400 level. The writing of a thesis is optional; a maximum of 6 credit hours may be counted for thesis research. A comprehensive examination must be passed, which includes a defense of the thesis if the student has chosen to write one. A grade point average of 3.0 must be maintained during each academic year. The requirements must be fulfilled within six years from the time of admission. Two-thirds of required graduate credit must be taken in residence. No language requirement.

Doctorate
A minimum of 48 hours past the master's degree with satisfactory performance. Residency requirement of three years/six semesters (for those with master's degree, two years/four semesters) at UM-St. Louis and/or cooperating UM-Rolla campus. Ph.D. qualifying exam, dissertation, dissertation exam administered in cooperation with UM-Rolla. Overall requirement of B grades or better.

Dissertation may be written in absentia. No language requirement.

Special Equipment, Facilities, or Programs
The supporting facilities of the University of Missouri-St. Louis include a modern library with holdings in excess of 1,067,258 bound volumes, a microtext department containing 1,255,484 titles, and approximately 758,802 titles in the government documents section. Campus' computing facilities include a UNIX system and workstations. The Department maintains a workstation for image processing. The physics department operates a machine shop and an electronics shop. In addition, the department maintains a library containing some of the most frequently used physics journals.

Typical Program:
First Semester
Physics: 400-level and 300-level course
Total: 6 hours
Second Semester
Physics: 400-level and 300-level course
Total: 6 hours
Third Semester
Physics: 400-level and 300-level course
Physics 490(6490), Thesis Research or Seminar
Total: 9 hours
Fourth Semester
Physics: 400-level and 300-level course
Physics 490(6490) Thesis Research or Seminar
Total: 9 hours

Career Outlook
Many of our students have been successful in subsequent graduate studies in astronomy and meteorology, as well as in physics. Our alumni have pursued graduate studies and earned doctorate degrees at institutions such as Cornell University, University of Wisconsin, Washington University, and University of Chicago. The many students who elected a career in industry are now working in a variety of settings for such firms as International Business Machines, Emerson Electric, Southwestern Bell, Hewlett-Packard, Boeing, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.
Course Descriptions
Prerequisites may be waived by consent of the department.
Courses in this section are grouped as follows: Astronomy; Atmospheric Science; Geology; and Physics.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences breadth of study requirements as described in that Bulletin:

ASTRONOMY: 1(1001), 11(1011), 12(1012), 22(1022), 50(1050), 51(1051), 121(1121).
ATMOSPHERIC SCIENCE: 1(1001).
GEOLGY: 1(1001), 2(1002).
PHYSICS: 1(1001), 11(1011), 12(1012), 111(2111), 112(2112).

Astronomy

1(1001) Cosmic Evolution/Introductory Astronomy (4) [MI, MS]

11(1011) Planets and Life in the Universe (3) [MS]
Man's concept of the solar system from Stonehenge to Einstein; geology and meteorology of the planets of our solar system, with particular attention to results from the space program; exobiology-study of the possibilities of life on other worlds and the best method of communicating with it. Three lecture hours per week.

12(1012) The Violent Universe and the New Astronomy (3) [MS]
A non-technical course focusing on recent results which larger telescopes and the space program have made available. Pulsars, x-ray stars, and black holes; radio astronomy, our galaxy, and interstellar molecules; exploding galaxies and quasars; origin of the expanding universe. Three lecture hours and one observing session per week.

22(1022) Practical Astronomy (2) [MS]
Prerequisite: Astronomy 1(1001) or 11(1011). Designed to acquaint students with observational astronomy: constellations, planets, stars, nebulae, and galaxies. Students will become familiar with operation of a telescope and its use in visual observation and photography. The basics of astronomical nomenclature and coordinates will also be emphasized. This course is primarily for non-scientists.

50(1050) Introduction to Astronomy I (3) [MS]
Prerequisites: Math 30(1030) and 35(1035). A survey of the history of astronomy from the ancient times to the present. The motions of the planets and stars, real and apparent, tools of the astronomer. A study of our solar system, concentrating on results of the space program.

51(1051) Introduction to Astronomy II (3) [MS]
Prerequisites: Math 30(1030) and 35(1035). A survey of astronomy and cosmology focusing on discoveries and phenomena outside of the solar system: stars, galaxies, quasars, etc.

121(1121) The Search for Extraterrestrial Life (3) [MS]
Prerequisite: Astronomy 1(1001) or 11(1011). Are we alone? The possibility of life in the universe in addition to our own will be explored. Our discussion of the chances for extraterrestrial life will be built around the current theories of chemical, biological, and cultural evolution, which have led to our own technological civilization on Earth. Strategies for communication with extraterrestrial intelligence will be discussed.

301(4301) Astrophysics (3)
Prerequisite: Physics 231(3231) or consent of instructor. A moderately technical introduction to astrophysics. Topics will include: physics of stellar interiors and atmospheres; interpretation of stellar spectra; stellar evolution; radio astronomy; and cosmology.

322(4322) Observational Astronomy (4)
Prerequisites: Astronomy 50(1050), Astronomy 51(1051), and Math 180(2000) or consent of instructor. Tools of the astronomer: telescopes, spectroscopy, photometry. Students will work on a number of projects which will enable them to develop expertise in obtaining, reducing, and analyzing astronomical observations. Student night observing will be an important part of the course. This course is primarily for persons who are astronomy or physics majors or who have some equivalent astronomical background.

Atmospheric Science

1(1001) Elementary Meteorology (4) [MS] [MI]
Prerequisite: High school physics or chemistry. An elementary survey of atmospheric phenomena intended to fulfill the science requirement. Topics included are temperature, pressure, and moisture distributions in the atmosphere and dynamical effects such as radiation, stability, storms, and general circulation. Applications to weather forecasting. Three hours of lecture and two hours of laboratory per week.
### Geology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(1001)</td>
<td>General Geology (4)[MI, MS]</td>
<td>Earth materials and processes, including geological aspects of the resource/energy problem. Laboratory involves identification of common rocks and minerals.</td>
</tr>
<tr>
<td>2(1002)</td>
<td>Historical Geology (4)[MI, MS]</td>
<td>Study of changes in geography, climate and life through geological time; origin of continents, ocean basins, and mountains in light of continental drift. Laboratory primarily involves description and identification of fossils.</td>
</tr>
<tr>
<td>53(1053)</td>
<td>Oceanography (3)</td>
<td>The atmospheric and ocean circulations; the chemistry and geology of the deep sea; and their effects on the distribution of marine organisms.</td>
</tr>
</tbody>
</table>

### Physics

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(1001)</td>
<td>How Things Work (3)[MS]</td>
<td>Provides a practical introduction to understanding common life experiences by using physical intuition and basic ideas of physics.</td>
</tr>
<tr>
<td>11(1011)</td>
<td>Basic Physics (4)[MI, MS]</td>
<td>A survey course specifically designed for students in health and life sciences covering such topics as classical mechanics, heat, sound, electricity, magnetism, light, and radiation. Will not fulfill the Physics 11(2111) requirement for physics, chemistry, and engineering majors.</td>
</tr>
<tr>
<td>12(1012)</td>
<td>Basic Physics (4)[MI, MS]</td>
<td>Continuation of Physics 11(1011).</td>
</tr>
<tr>
<td>50 (2111)</td>
<td>Introduction to Physics (4)</td>
<td>A laboratory survey course which introduces students to the fields of mechanics, heat and thermodynamics, optics, electricity and magnetism, and modern physics at the pre-calculus level.</td>
</tr>
<tr>
<td>111(2111)</td>
<td>Physics: Mechanics and Heat (5)[MS, MI]</td>
<td>An introduction to the phenomena, concepts, and laws of mechanics and heat for physics majors and students in other departments. Three hours lecture, one hour discussion, and two hours of laboratory per week.</td>
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### College of Arts & Sciences

#### Department of Physics and Astronomy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>112(2112)</td>
<td>Physics: Electricity, Magnetism, and Optics (5)[MI, MS]</td>
<td>A phenomenological introduction to the concepts and laws of electricity and magnetism, electromagnetic waves, optics and electrical circuits for physics majors and students in other departments. Three hours of lecture, one hour of discussion, and two hours of laboratory per week.</td>
</tr>
<tr>
<td>200(3200)</td>
<td>Survey of Theoretical Physics (3)</td>
<td>Mathematical techniques specifically used in the study of mechanics, electricity, magnetism, and atomic physics are developed in the context of various physical problems. In particular, statics problems in electricity and magnetism are emphasized as applications of vector analysis, solutions of Laplace's equation, coordinate systems, and numerical techniques.</td>
</tr>
<tr>
<td>221(3221)</td>
<td>Mechanics (3)</td>
<td>A laboratory survey course covering rigid-body dynamics, damped and undamped oscillatory motion, with an introduction of Lagrange's equations and variational principles. Three hours of lecture and one hour of discussion per week.</td>
</tr>
<tr>
<td>223(3223)</td>
<td>Electricity and Magnetism (3)</td>
<td>Electromagnetic fields, including electrostatics, dielectric materials, solution to Laplace's equation, currents and magnetic fields, motion to charged particles, and introduction to electromagnetic waves. Three hours of lecture and one hour of discussion per week.</td>
</tr>
<tr>
<td>231(3231)</td>
<td>Introduction to Modern Physics I (3)</td>
<td>Photons and the wave nature of particles, wave mechanics, Schroedinger's equations, with applications to atomic physics; and radiation; the physics of solids; elementary particles; relativity; health physics. Three hours of lecture and one discussion section per week.</td>
</tr>
<tr>
<td>280(4802)</td>
<td>Curriculum and Methods of Teaching Physical Sciences (3)</td>
<td>The techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.</td>
</tr>
</tbody>
</table>
281(3281) Directed Readings in Physics (1-5)
Prerequisite: Consent of instructor. A study of the literature of physics. A paper is required on an approved topic. Topics must be substantially different. Hours arranged.

283(4387) Chemistry/Physics Teaching Intern Seminar (1)
(Same as Chemistry 283(4837). Prerequisite: Chem 280(4802) or Physics 280(4802). A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290(3290) One hour discussion per week.

289(3410) Seminar (1)
Presentation of selected papers by students and faculty members at weekly meeting. May be taken twice for credit.

301(5402) Introduction to Mathematical Physics (3)
Prerequisites: Sixteen hours of physics. A course covering mathematical techniques as applied to equations of theoretical physics, calculus of variations, Green's functions; linear vector spaces, and integral equations. Three hours of lecture and one hour of discussion per week.

304(4310) Modern Electronics (3)
An integrated recitation/laboratory study of modern analog and digital electronics with emphasis on integrated circuits. Topics include circuit elements, operational amplifiers, logic gates, counters, adc/dac converters, noise reduction, microprocessors, embedded microcontrollers, and digital processing. Three hours of lecture/laboratory per week.

306(4306) Emergent Microscopy Practicals (1-3)
Prerequisite: Consent of Instructor (1.0 credit hour per module with a maximum of 3 credit hours) A critical web-based/laboratory study of developing nanoworld microscopy techniques, designed for microscopy clients and future microscope operators. The course consist of larger set to include (a) electron microscopy, (b) materials microscopy, (c) scanned-probe microscopy, with each module covering instrumentation, wide ranging uses, and weaknesses to avoid. Each module requires two lab visits for hands-on experiences, and three sessions of structured web and e-mail interaction per week.

307(4307) Scanning Electron Microscopy (3)
Prerequisite: Consent of instructor. A lecture/laboratory study of scientific research techniques using scanning electron microscopy (SEM). Course includes electron gun/lens optics, beam-specimen interactions, image formation, associated x-ray techniques, and analysis of images. Two hours lecture and two hours laboratory each week.

308(5308) Transmission Electron Microscopy (3)
Prerequisite: Physics 307(4307) or consent of instructor. A lecture/laboratory study of transmission electron microscopy (TEM) in conventional, analytical, and phase-contrast (high resolution) applications. Course includes advanced electron optics and image formation, defect structures, specimen preparation, contrast theory, diffraction/periodicity analysis, and electron energy loss/x-ray spectroscopy. Two hours lecture and two hours laboratory per week.

309(4309) Scanning Probe Microscopy (3)
Prerequisite: Physics 307(4307) or consent of instructor. A lecture/laboratory study of research techniques using scanning probe microscopy. Topics include atomic force microscopy, scanning tunneling microscopy, feedback control, scanning tip fabrication, scan calibrations, air/solution/vacuum imaging, image processing and analysis, near-field optical probes, metrology, and lateral force/displacement microscopy. Applications in physics, chemistry, biology, engineering, and surface science are discussed. Two hours lecture and two hours laboratory per week.

311(4311) Advanced Physics Laboratory I (3)
Prerequisites: Advanced standing with at least nine completed hours of Physics at or above the 200 level. Physics majors are introduced to the experimental techniques used in research. A student will choose and do several special problems during the semester. Six hours of laboratory per week.

323(4323) Modern Optics (3)
Prerequisite: Physics 223(3223). A study of modern optics including diffraction theory, polarization, light propagation in solids, quantum optics, and coherence. Three hours of lecture and one discussion per week.

325(4325) Topics in Modern Applied Physics (3)
Prerequisites: Physics 304(4310) and Math 202(2020). Topics are taken from modern applications of physics which may include linear analysis, nonlinear analysis, Fourier transform spectroscopy, wavelet analysis, noise and fluctuation phenomena, material science, physical electronics, optical techniques, and scanning tip microscopy. Three hours of lecture and one hour of discussion per week.

331(4331) Introduction to Quantum Mechanics (3)
Prerequisites: Physics 200(3200) and 231(3231). Photons and the wave nature of particles; wave mechanics, Schroedinger equation, and applications to single systems, atomic physics and spectroscopy; molecular physics, nuclear models and reactions, the physics of solids; elementary particles, relativity. Three hours of lecture and one discussion section per week.
335(4335) Atomic and Nuclear Physics (3)
Prerequisite: Physics 331(4331). Application of Schroedinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses, energy levels; alpha, beta, and gamma radiation, nuclear reaction, and models of the nucleus. Three hours of lecture and one hour of discussion per week.

341(4341) Thermal and Statistical Physics (3)
Prerequisites: Math 180(2000) and Physics 231(3231). Introduction to statistical mechanics, laws of thermodynamics, kinetic theory. Three hours of lecture and one hour of discussion per week.

343(4343) Selected Topics in Physics I (3)
Prerequisites: Physics 221(3221), 223(3223), 231(3231), and 341(4341). Topics include special phenomena from research areas such as scattering of waves, biophysics, nonlinear physics, geophysical fluid dynamics and the atmospheric sciences treated by methods of advanced mechanics, thermodynamics and quantum mechanics. Three hours of lecture per week.

350(4350) Computational Physics (3)
Prerequisite: Computer Science 125(1250), plus Physics 221(3221), 223(3223), and 231(3231). Computer analysis in physics; solutions of eigenvalue problems; coupled differential equations.

351(4351) Elementary Solid State Physics (3)
Prerequisite: Physics 331(4331). Theoretical and experimental aspects of solid state physics, including one-dimensional band theory of solids; electron emission from metals and semiconductors; electrical and thermal conductivity of solids. Three hours of lecture and one hour of discussion per week.

353(4353) Physics of Fluids (3)
Prerequisites: Physics 221(3221), 223(3223), and 341(4341), or consent of instructor. Topics from the theory of gases, liquids, or plasmas. Dynamical properties of one of these forms of matter will be developed with contemporary applications stressed.

354(4354) Atmospheric Physics (3)
Prerequisite: Physics 341(4341). Topics from dynamic and physical meteorology including the ionosphere. Application of thermodynamics, optics, radiation, and mechanics to atmospheric phenomena.

356 (4356) Quantum Optics (3)
Prerequisites: Physics 200(3200) and 231(3231), and Math 202(2020). Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography.

357(4357) Subatomic Physics (3)
Prerequisites: Physics 223(3223), 231(3231) and 331(4331), may be taken concurrently. Introduction to nuclear and particle physics. Nuclear phenomenology and models; high energy particle accelerators and detectors; phenomenology of strong, electromagnetic and weak interactions; symmetry principles; quark compositions of strongly interacting baryons and mesons; gauge theories and the standard model of particle interactions; grand unification. Three hours of lecture and one hour of discussion per week.
404(6404) Experimental Research Techniques (3)
Prerequisite: Graduate standing. Experiments in various fields of physics designed to stress techniques and experimental approach.

405(6405) Theoretical Physics I (3)
Prerequisites: Physics 221(3221) and 223(3223) or equivalent. Newton's laws applied to simple systems, central force problem, variational principles. Lagrangian and Hamiltonian formulations, electrostatics. Maxwell field operations, wave propagation.

406(6406) Theoretical Physics II (3)
Prerequisites: Physics 231(3231), 341(4341), or equivalent, and Physics 405(6405). Schroedinger equation and wave mechanical treatment of simple systems: perturbation theory; identical particles and spin. Laws of thermodynamics, canonical systems; thermodynamic potentials and Maxwell equations, open systems, and chemical potential. Clausius-Clapeyron equation.

407 (6407) Modern Physics (3)
Prerequisite: Physics 331(4331). A study of some of the more important concepts of modern physics.

409 (6409) Theoretical Mechanics I (3)
Prerequisite: Physics 221(3221). Classical mechanics, methods of Newton, Lagrange, and Hamilton, applied to motion of particles and rigid bodies, elasticity, and hydrodynamics.

410(6410) Seminar (variable hours)
Prerequisite: Approval of department chair. Discussion of current topics.

411(6411) Electrodynamics I (3)
Prerequisite: Physics 223(3223). A rigorous development of the fundamentals of electromagnetic fields and waves. Electrostatics, magnetostatics, Maxwell's equations, Green's functions, boundary value problems, multipoles, and conservation laws.

413(6413) Statistical Mechanics (3)
Prerequisites: Physics 331(4331) and 341(4341). A study of statistical ensembles; Maxwell-Boltzmann, Fermi-Dirac, and Einstein-Bose distribution laws, application to some simple physical systems.

415(6415) Theoretical Mechanics II (3)

417(6417) Advanced Statistical Mechanics (3)
Prerequisite: Physics 413(6413). A continuation of Physics 413(6413). Further applications as to such topics as the imperfect gas, condensation and the critical region, magnetism, liquid state, and transport phenomena.

423(6423) Electrodynamics II (3)

425 (6425) Plasma Physics (3)
Prerequisites: Physics 341(4341) and 411(6411). Fundamentals of kinetic theory, fluid equations, MHD equations, and applications; wave propagation, shielding effect, diffusion stability, and charged particle trajectories.

435 (6435) Cloud Physics (3)
Prerequisites: Physics 223(3223) and 341(4341). A study of cloud microphysics and dynamics, atmospheric condensation and freezing nuclei, phase, precipitation mechanisms; aerosol scavenging, role of electrification, current dynamical models, and review of diagnostic techniques.

455 (6455) Theoretical Nuclear Physics (3)
Prerequisite: Physics 461(6461). A study of the basic properties of nuclei, nuclear scattering and forces, nuclear reactions, and models.

461 (6461) Quantum Mechanics I (3)
Prerequisite: Physics 331(4331). A study of the Schroedinger wave equation, operators and matrices, perturbation theory, collision, and scattering problems.

463 (6463) Quantum Mechanics II (3)
Prerequisite: Physics 461(6461). Continuation of Physics 461(6461) to include such topics as Pauli spin-operator theory, classification of atomic states, introduction to field quantization. Dirac electron theory.

465 (6465) Quantum Mechanics III (3)
Prerequisites: Physics 461(6461) and 463(6463). Topics chosen from such fields as: relativistic quantum mechanics, potential scattering, formal collision theory, group theoretical methods in quantum mechanics, electrodynamics.

467 (6467) Quantum Statistical Mechanics (3)
Prerequisites: Physics 413(6413) and 463(6463). Techniques for calculation of the partition function with examples drawn from interacting Fermi gas, interacting Bose gas, superconductors, and similar sources.

471 (6471) Atomic and Molecular Structure (3)
Prerequisite: Physics 461(6461). Applications of quantum mechanics to the structure of atoms and molecules; perturbation and variational calculations, self-consistent fields, multiplets, angular momenta, Thomas-Fermi model, diatomic molecules, spectral intensities.
473 (6473) Atomic Collision Theory (3)
Prerequisite: Physics 471(6471) or 463(6463). Basic quantum mechanical concepts involved in atomic scattering theory. Topics include: elastic and inelastic collisions of electrons and ions with neutral atoms and molecules; collisions between heavy particles; curve crossing; photo-processes; and Coulomb wave functions.

475 (6475) Molecular Spectroscopy (3)
Prerequisite: Physics 461(6461). Introduction to classical and quantum treatment of the vibrational and rotational structure and spectra of diatomic, linear triatomic, and simple polyatomic molecules: vibrational-rotational interactions, point group symmetry in simple infrared spectra analysis, calculations of vibrational frequencies, and normal coordinates of polyatomic atoms.

481 (6481) Physics of the Solid State (3)
Prerequisite: Physics 461(6461). Crystal symmetry, point and space groups, lattice vibrations, phonons, one-electron model, Hartree-Fock approximation, elementary energy band theory, transport properties, the Boltzmann equation, introduction to superconductivity, semiconductors, and magnetism.

483 (6483) Selected Topics of the Solid State (3)
Prerequisite: Physics 481(6481). Introduction to many-body perturbation theory, the use of Feynman diagrams. Green’s functions, treatment of the electron-electron, phonon-phonon, and electron-phonon interactions, theory of magnetism, and theory of superconductivity.

485 (6485) Advanced Quantum Mechanics (3)
Prerequisite: Physics 465(6465). Selected topics such as many-body problems field theory, S matrix theory and symmetries.

490 (6490) Research (variable hours)
Prerequisites: Must have a faculty mentor and approval of the department chair. Investigations of an advanced nature leading to the preparation of a thesis or dissertation.

493 (6493) Oral Examination
After completion of all other program requirements, oral examinations for on campus students may be processed during the first two weeks of an academic session or at any appropriate time for off-campus students upon enrollment in Physics 493(6493) and payment of an oral examination fee. All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three semester hours for resident students.

495 (6495) Continuous Registration
Doctoral candidates who have completed all requirements for the degree except the dissertation, and are away from the campus, must continue to enroll for at least one hour of credit each registration period until the degree is completed. Failure to do so may invalidate the candidacy. Billing will be automatic as will registration upon payment.
Department of Political Science

Faculty

Lana Stein, Professor*, Chairperson
Ph.D., Michigan State University
Werner F. Grunbaum, Professor Emeritus
Ph.D., University of Chicago
Kenneth F. Johnson, Professor Emeritus
Ph.D., University of California-Los Angeles
E. Terrence Jones, Professor*
Ph.D., Georgetown University
Dennis R. Judd, Professor Emeritus
Ph.D., University of Illinois
Carol W. Kohfeld, Professor Emerita
Ph.D., Washington University
Eugene J. Meehan, Curators' Professor Emeritus
Ph.D., London School of Economics
Joyce M. Mushaben, Professor*, Director, Institute of Women's and Gender Studies
Ph.D., Indiana University
David B. Robertson, Professor*
Ph.D., Indiana University
J. Martin Rochester, Distinguished Teaching Professor*
Ph.D., Syracuse University
Lyman T. Sargent, Professor*
Ph.D., University of Minnesota
G. Eduardo Silva, Professor*, Graduate Director
Ph.D., University of California-San Diego
J. Fred Springer, Professor Emeritus
Ph.D., University of California-Davis
Andrew Glassberg, Associate Professor*
Ph.D., Yale University
Joel N. Glassman, Associate Professor*, Director, Center for International Studies, Associate Vice Chancellor for Academic Affairs
Ph.D., University of Michigan
Barbara L. Graham, Associate Professor*
Ph.D., Washington University
Jean-Germain Gros, Associate Professor*
Ph.D., University of California-Berkeley
Ruth Iyob, Associate Professor*
Ph.D., University of California-Santa Barbara
Richard L. Pacelle, Jr., Associate Professor*
Ph.D., The Ohio State University
Kenneth P. Thomas, Associate Professor*
Ph.D., University of Chicago
Brady Baybeck, Assistant Professor*
Ph.D., Washington University
David C. Kimball, Assistant Professor*
Ph.D., Ohio State University
Nancy T. Kinney, Assistant Professor*
Ph.D., University of Colorado at Denver
Bryan W. Marshall, Assistant Professor*
Ph.D., Michigan State University

*members of Graduate Faculty

Political Science faculty are nationally known scholars in their respective fields, dedicated to high-quality teaching and education. Department faculty members have received distinctions such as the Presidential Award for Research and Creativity, Chancellor's Award for Research and Creativity, Chancellor's Award for Excellence in Teaching, Governor's Teaching Awards, Burlington Northern Faculty Achievement Award, and Emerson Electric Excellence in Teaching Award. They have received research grants from such prestigious agencies as the John F. Kennedy Library, the Ford Foundation, the MacArthur Foundation, the National Science Foundation, the German Marshall Fund, the United States Department of Education, the Fulbright Program, and the United States Institute for Peace. The faculty has published its research in more than 80 books and 400 articles in scholarly journals and is devoted to using its research findings to improve teaching.

In 1987, the Department of Political Science was designated as a Center of Eminence by the Board of Curators. This makes political science one of only two such programs on the St. Louis campus and ten in the entire University of Missouri system to be so designated. The department was selected because of its excellence in research and teaching.

The Greek word for "idiot" was used in ancient times to refer to one who took no interest in public affairs. In addition to helping students become more knowledgeable about politics and public policy, political science course work provides rich opportunities for students to develop a variety of practical skills--such as information-gathering and processing, analysis, research, decision making and oral and written communication--that are transferable to many career paths and job settings after graduation.

General Information

Degrees and Areas of Concentration

The political science department offers undergraduate work leading to the B.A. degree in political science, B.S. degree in public policy and administration, and, in cooperation with the College of Education, the B.A. in political science with teacher certification and the B.S. in education with an emphasis in social studies. (See College of Education section in this Bulletin for details.) Minors in political science are available to students who are majoring in another discipline and who have a special interest in law, government, politics, and public policy.

Principal areas of concentration include urban politics, American political processes and behavior, international politics, comparative politics, public policy and administration, public law, and political theory. In many courses, emphasis is placed on the ways in which public policies are developed and administered. In addition to formal course work, internships are available in which the
student can relate classroom learning to practical field experience.

The political science department also offers graduate courses leading to the M.A. and Ph.D. in political science. The M.A. program in political science offers advanced education for those seeking careers in government, business, secondary education, community, or not-for-profit agencies. The principal foci of the 33-hour program are public administration and public policy analysis/evaluation in the local, state, national, and international areas. The flexibility of the general master's degree allows for individualized programs in urban politics, prelegal education, American national government, comparative politics, international relations, and political theory.

The Ph.D. in political science emphasizes the study of theoretic, analytic, and substantive approaches to public policy. Core courses include research methods, normative and empirical theory, and policy processes and institutions. Doctoral candidates, in consultation with the faculty, develop a policy concentration, which can be interdisciplinary. Internships, when appropriate, may be a component. All successful doctoral candidates must complete a dissertation, which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so those employed outside the university can participate in the programs on a part-time basis. Financial assistance is available to full-time students.

Special Interdisciplinary Degree
The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the College of Business Administration in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see that section in this Bulletin.

Cooperative Programs
Political science students may also study overseas, or obtain a certificate in international studies, European studies, African Studies, East Asian studies, Latin American studies, women's studies, or writing, in conjunction with their political science major. See Certificate Programs in this Bulletin and consult with the Center for International Studies.

Research in political science is encouraged for students at all levels. Assistance is available at UM-St. Louis' Public Policy Research Centers, the Center for International Studies, and the Office of Computing. The department's membership in the Interuniversity Consortium for Political and Social Research provides access to a wide range of survey data on local-state-national, comparative, and international politics. In addition, extensive research opportunities are available within the metropolitan St. Louis area. Financial assistance is available for qualified students; details can be obtained from the department office.

Undergraduate Studies

General Education Requirements
Majors must satisfy the university and college general education requirements. Political science courses may be used to satisfy the social sciences requirement. The foreign language requirement for the B.A. degree may be satisfied in any language.

Departmental Honors
The department awards honors to students having a grade point average (GPA) of 3.2 in the major, an overall GPA of 3.2 (except in extraordinary circumstances), and successfully completed an honors thesis, project, or report.

Degree Requirements

Bachelor of Arts in Political Science
All majors must complete at least 36, but not more than 45, hours of political science. All students are required to take the following core curriculum:

- Pol Sci 11(1100), Introduction to American Politics
- 12(1500), Introduction to Comparative Politics
- 200(2000), Political Analysis
- 395(3950), Senior Seminar in Political Science

Majors are urged to take PolSci 11(1100), 12(1500), and 200(2000) as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent coursework. Because the seminar topics in PolSci 395(3950) change from semester to semester, the course can be repeated as an elective. All majors must take at least one Seminar in Political Science.

Students also must complete at least one course in four of the following political science areas:

- Public Law (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 20-29).
- American Politics (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 30-39).
- Public Policy and Administration (chosen from among political science courses at the 100, 200 or 300 level whose last two digits are 40-49).
- Comparative Politics (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 50-59).
- Political Theory (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 60-69).
International Relations (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 80-89).

Methodology (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 00-09).

At least 18 hours of political science course work must be at the 200 or 300 level, not including PolSci 200(2000). B.A. degree students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis; this can include any course except the required courses in the core curriculum.

Note: As early as possible, students should determine their educational objectives and consult with an adviser regarding a plan of study. Those students who are uncertain of their future plans are urged to include in their 36-45 hours of political science a broad set of courses in American politics, public policy and administration, public law, comparative politics, international politics, political theory, and methodology. In addition to this general course of study in political science, the department offers B.A. degree students several specialized programs of study in political science geared to various student academic and career interests.

Graduate School Preparation This program is designed for students planning to pursue graduate studies in political science, particularly the Ph.D. degree, with the aim of a career as either an academic or practitioner (working as a researcher, policy analyst, or in some other capacity calling for advanced knowledge and skills). In addition to the core curriculum and common requirements for all political science majors, students are advised to (1) take as many political science courses at the 200 and 300 level as possible in a variety of areas (public law, American politics, comparative and international politics, etc.), (2) complete a departmental honors project based on independent research and writing in PolSci 390(3900), Special Readings, and (3) give special consideration to courses in normative political theory (such as PolSci 262/2620, Modern Political Thought) and research methods (such as PolSci 401/6401, Introduction to Policy Research, which is a graduate course open to undergraduates with Graduate School approval). Students are also encouraged to take course work outside the department in microeconomics, macroeconomics, and statistics.

Legal Studies This is an ideal program of study for double majors in political science and criminal justice or for any student interested in law school and a career in the law. In addition to the core curriculum and common requirements for all political science majors, students are advised to take PolSci 20(1200), Foundations of Law: An Introduction to Legal Studies, and at least four of the following political science courses:

129(2290), Women and the Law
165(2650), American Political Thought
190(2900), Studies in Political Science (when appropriate)
226(2260), Law and the Individual
228(2280), Judicial Politics and Policy
295(3940), Public Affairs Internship (when appropriate)
320(3200), Constitutional Law
321(3210), Civil Liberties
326(3260), Judicial Decision-making
329(3290), Studies in Public Law
385(4850), International Law
390(3900), Special Readings (when appropriate)

Students are also advised to take political science course work that gives them a strong background in American political institutions and processes. Those students considering practicing law in the international arena should take course work in comparative and international politics. Political science course work may be supplemented by course work in criminal justice and criminology.

American Politics Designed for those students interested in careers in communications, education, business, social work, political consulting, and other fields requiring knowledge of American urban, state, and national politics and institutions. Education majors planning to teach in the social studies field, communications majors planning on a career in journalism, or business majors thinking about working in corporate relations may especially wish to consider a double major in political science with a focus in this area. In addition to the core curriculum and common requirements for all majors, students are advised to take at least five of the following political science courses:

99(1990), The City
130(2300), State Politics
135(2350), Introduction to Urban Politics
165(2650), American Political Thought
190(2900), Studies in Political Science (when appropriate)
228(2280), Judicial Politics and Policy
230(3300), The American Presidency
231(3331), Congressional Politics
232(2320), African Americans and the Political System
233(3330), Introduction to Political Behavior
234(3340), Politics and the Media
235(3350), Political Parties and Elections
238(2380), Women in U.S. politics
242(2420), Introduction to Public Policy
248(3480), Environmental Politics
282(2820), United States Foreign Policy
295(3940), Public Affairs Internship (when appropriate)
332(3390), Studies in American Politics
333(3370), Mock Constitutional Convention
areas of employment. In addition to the core curriculum and common requirements for all political science majors, students are advised to take PolSci 180(1800), World Politics, or PolSci 150(2500), Comparing Different Worlds, and at least four of the following political science courses (some of which are international politics courses that focus on conflict and cooperation between countries, and some of which are comparative politics courses that focus on political, economic, and social change within countries):

80(1820), Global Issues
85(1850), Global Ecology
155(2550), East Asian Politics
160(1600), Contemporary Political Ideologies
190(2900), Studies in Political Science (when appropriate)
251(2510), Comparative Politics of Europe
253(2530), Political Systems of South America
254(2540), Political Systems of Mexico, Central America, and the Caribbean
256(2560), Russia and the New Republics
257(3570), Gender, Race, and Public Policy
258(2580), African Politics
269(3690), The Marxist Heritage
280(2800), Model United Nations
282(2820), United States Foreign Policy
283(3830), International Political Economy
284(3840), European International Relations
285(3850), International Organizations and Global Problem-Solving
289(2520), Middle Eastern Politics
295(3940), Public Affairs Internship (when appropriate)
351(4510), Comparative Public Policy and Administration
355(4550), Democratization in Comparative Perspective
359(3590), Studies in Comparative Politics
385(4850), International Law
386(3860), Studies in War and Peace
388(3890), Studies in International Relations
390(3900), Special Readings (when appropriate)

Students interested in working for the U.S. Foreign Service, American-based multinational companies, and nonprofit organizations should also take course work that familiarizes them with the American political system and how public policy is made. Students should explore the various interdisciplinary area studies and international studies certificate programs offered through the Center for International Studies.

Bachelor of Science in Public Policy and Administration
The BSPA degree has two emphasis areas. The first is a public administration track, which emphasizes management in both the public and nonprofit sectors; it may produce a terminal degree or be a precursor to graduate training. The second is a public policy track in which a student may focus on a particular policy area and also acquire specialized analytic training and research skills, in preparation for relevant entry-level jobs in the
All BSPA majors must complete at least 33, but no more than 45, hours in political science. The following core curriculum is required of all BSPA majors:

**Political Science**
- 11(1100), Introduction to American Politics
- 12(1500), Introduction to Comparative Politics
- 140(2400), Public Administration
- 200(2000), Political Analysis
- 242(2420), Introduction to Public Policy
- 295(3940), Public Affairs Internship
- 395(3950), Senior Seminar in Political Science
- Econ 51(1001), Principles of Microeconomics
- Econ 52(1002), Principles of Macroeconomics
- CCJ 220(2220), Statistical Analysis in Criminology and Criminal Justice or Sociology 220(3220), Sociological Statistics or Econ 265(3100), Economic Statistics

In addition, students must provide a demonstration of computer proficiency through one of the following: BA 103(1800), Computers and Information Systems, extension courses, or other study approved by the BSPA coordinator.

BSPA students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis, except for the following (which may not be taken on a satisfactory/unsatisfactory basis): PolSci 11(1100), 12(1500), 140(2400), 200(2000), 242(2420), 295(3940), and 395(3950).

**Public Administration Emphasis Area**
In addition to the core curriculum requirements for all BSPA majors, students in the public administration emphasis-area are required to complete the following courses:
- PolSci 342(3420), Public Personnel Management
- PolSci 344(3440), Public Budgeting
- BA 140(2400), Fundamentals of Financial Accounting

Students in the public administration emphasis area also must take two of the political science courses listed under policy and institutions courses below, as well as at least two additional elective courses chosen from among that list or any other political science offerings.

**Public Policy Emphasis Area**
In addition to the core curriculum requirements for all BSPA majors, students in the public policy emphasis area must take four political science courses, preferably selected from the policy and institutions courses listed below but which may include other political science course offerings as well.

**Policy and Institutions Courses:**
- 45(1450), Introduction to Labor Studies
- 130(2300), State Politics
- 135(2350), Introduction to Urban Politics
- 228(2280), Judicial Politics and Policy
- 230(3300), The American Presidency
- 231(3331), Congressional Politics
- 240(3400), Bureaucratic Politics
- 243(3430), Union Leadership and Administration
- 245(3450), Urban Administration
- 246(3460), The Politics of Poverty and Welfare
- 248(3480), Environmental Politics
- 340(3400), Organizational Politics
- 343(3439), Studies in Policy Formation
- 346(4470), Urban Planning and Politics
- 351(4510), Comparative Public Policy and Administration
- 394(4940), Leadership and Management in Nonprofit Organizations

Students will adopt a policy concentration of at least 15 credit hours. Possible areas of specialization include, but are not limited to, environmental policy, government and business, society and the legal system, urban policy, labor studies, health care, human services, and nonprofit service provision. In fulfilling the concentration requirement, students, in consultation with the BSPA coordinator, will select courses from related disciplines in addition to taking two more political science courses related to the policy area beyond the four political science courses already required.

Note: Students considering the B.S. in public policy and administration should see a political science adviser as early as possible to plan their program.

**Requirements for the Minors**
A general minor in political science can be arranged, as well as specialized minors in eight different subfields of the discipline. Interested students should see a faculty adviser to plan a coherent program of study as a minor field.

Students must achieve a cumulative 2.0 GPA in the political science courses chosen to qualify for the minor. Students may count no more than 3 hours in political science taken on a satisfactory/unsatisfactory basis toward the minor. Students taking an internship (Political Science 295(3940) may count no more than three hours of the internship toward the minor.

**Minor in Political Science, General**
Fifteen hours, chosen from among all political science courses.
Minor in American Politics
Fifteen hours, chosen from the following political science courses:

11(1100), Introduction to American Politics
130(2300), State Politics
135(2350), Introduction to Urban Politics
165(2650), American Political Thought
228(2280), Judicial Politics and Policy
230(3300), The American Presidency
231(3331), Congressional Politics
232(2320), African Americans and the Political System
233(3330), Introduction to Political Behavior
234(3340), Politics and the Media
235(3350), Political Parties and Elections
238(2380), Women in U.S. Politics
240(3400), Bureaucratic Politics
241(3410), The Politics of Business Regulation
242(2420), Introduction to Public Policy
282(2820), United States Foreign Policy
295(3940), Public Affairs Internship (when appropriate)
332(3390), Studies in American Politics
333(3370), Mock Constitutional Convention
390(3900), Special Readings (when appropriate)

Minor in Comparative Politics
Political Science 12(1500), Introduction to Comparative Politics, plus 12 hours from the following political science courses:

150(2500), Comparing Different Worlds
155(2550), East Asian Politics
251(2510), Comparative Politics of Europe
253(2530), Political Systems of South America
254(2540), Political Systems of Mexico, Central America, and the Caribbean
256(2560), Russia and the New Republics
257(3570), Gender, Race, and Public Policy
258(2580), African Politics
351(4510), Comparative Public Policy Administration
355(4550), Democratization in Comparative Perspective
359(3590), Studies in Comparative Politics
390(3900), Special Readings (when appropriate)

Minor in International Relations
Fifteen hours, chosen from the following political science courses:

80(1820), Global Issues
85(1850), Global Ecology
180(1800), World Politics
282(2820), United States Foreign Policy
283(3830), International Political Economy
284(3840), European International Relations
285(3850), International Organizations and Global Problem-Solving
289(2520), Middle Eastern Politics
295(3940), Public Affairs Internship (when appropriate)
385(4850), International Law
386(3860), Studies in War and Peace
388(3890), Studies in International Relations

Minor in Political Theory
Fifteen hours, chosen from the following political science courses:

160(1600), Contemporary Political Ideologies
165(2650), American Political Thought
261(2610), Ancient and Medieval Political Thought
262(2620), Modern Political Thought
268(3680), Feminist Political Theory
269(3690), The Marxist Heritage
368(3690), Studies in Political Theory
390(3900), Special Readings (when appropriate)

Minor in Public Administration
Political Science 140(2400), Public Administration, plus 12 hours chosen from the following political science courses:

240(3400), Bureaucratic Politics
241(3410), Politics of Business Regulation
242(2420), Introduction to Public Policy
245(3450), Urban Administration
295(3940), Public Affairs Internship (when appropriate)
306(4080), Program Evaluation
340(3400), Organizational Politics
342(3420), Public Personnel Management
343(3439), Studies in Policy Formation
344(3440), Public Budgeting
346(4470), Urban Planning and Politics
349(3490), Studies in Public Administration
351(4510), Comparative Public Policy and Administration
390(3900), Special Readings (when appropriate)

Minor in Public Law
Fifteen hours, chosen from the following political science courses:

20(1200), Foundations of Law: An Introduction to Legal Studies
129(2290), Women and the Law
226(2260), Law and the Individual
228(2280), Judicial Politics and Policy
320(3200), Constitutional Law
321(3210), Civil Liberties
326(3260), Judicial Decision-Making
329(3290), Studies in Public Law
385(4850), International Law
390(3900), Special Readings (when appropriate)

Minor in Public Policy
Political Science 242(2420), Introduction to Public Policy, plus 12 hours chosen from the following political science courses:

130(2300), State Politics
135(2350), Introduction to Urban Politics
140(2400), Public Administration
230(3300), The American Presidency
241(3410), The Politics of Business Regulation
245(3450), Urban Administration
246(3460), The Politics of Poverty and Welfare
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248(3480), Environmental Politics  
257(3570), Gender, Race, and Public Policy  
295(3940), Public Affairs Internship (when appropriate)  
308(4080), Program Evaluation  
344(3440), Public Budgeting  
346(4470), Urban Planning and Politics  
351(4510), Comparative Public Policy and Administration.  
390(3900), Special Readings (when appropriate)  

Minor in Urban Politics  
Political Science 135(2350), Introduction to Urban Politics, plus 12 hours chosen from the following political science courses:  
232(2320), African-Americans and the Political System  
245(3450), Urban Administration  
246(3460), The Politics of Poverty and Welfare  
295(3940), Public Affairs Internship (when appropriate)  
346(4470), Urban Planning and Politics  
390(3900), Special Readings (when appropriate)  

Bachelor of Arts with Teacher Certification  
For information, refer to the College of Education section in this Bulletin.

Bachelor of Science in Education: Emphasis in Social Studies  
The Political Science requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this Bulletin.

Graduate Studies

Master of Arts in Political Science.  
Admission Requirements For admission, a student should  
have a baccalaureate degree with a minimum grade point average of 2.75 and an undergraduate background in the social sciences. The GRE is required, and scores should be submitted at the time of application. Two letters of recommendation are also requested for each student applying to the program. Students who do not meet these requirements may be admitted upon approval of the department and the dean of the Graduate School. Application materials may be obtained from and should be returned to the office of the director of admissions.

Deadlines are July 1 for the fall semester; December 1 for the winter semester; and May 1 for the summer term.

Degree Requirements  
Beyond the general requirements of the Graduate School, the department requires a minimum of 27 semester hours of course work, of which 18 hours must be at the 400 level and 12 hours must be in core courses in political science, including:

401(6401), Introduction to Policy Research  
and three of the following political science courses:

410(6410), Introduction to Policy Analysis  
420(6420), Proseminar in Public Law  
430(6430), Proseminar in American Politics  
440(6440), Proseminar in Public Policy Administration  
450(6450), Proseminar in Comparative Politics  
460(6460), Proseminar in Political Theory  
470(6470) Proseminar in Urban Politics  
480(6480) Proseminar in International Relations

Students can plan their degree program to reflect the following six emphasis areas:  
American Politics  
Comparative Politics  
International Politics  
Political Process and Behavior  
Public Administration and Public Policy  
Urban and Regional Politics

Students must also select one of the following exit projects: a six-hour thesis, a six-hour internship, or six hours of additional course work and an approved paper. Students will have a mid-program review at the end of 12-15 hours of course work, at which time they will discuss their academic performance and program with a faculty committee and determine the most appropriate exit project. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project.

Ph.D. in Political Science  
The doctoral program emphasizes theoretical, analytic, and substantive approaches to public policy analysis and administration. Students are provided an opportunity to link core skills in policy analysis and political science with substantive emphasis in specific policy areas. The program is designed to prepare pre-career and mid-career students for advanced positions in policy research and administration, as well as for academic research and teaching.

Admission Requirements Admission and financial aid decisions are made on the basis of past academic record, intellectual ability, and career commitment and performance. Applications are accepted from students who have either baccalaureate or master's degrees. Past graduate work will be credited toward degree requirements as appropriate. Applicants must submit a) complete academic transcripts, b) three letters of recommendation, c) aptitude tests of the GRE and d) a statement of objectives for the course of study. Application materials may be obtained from and should be returned to the office of the director of admissions. Applications for fall semester should be submitted by February 15 and for winter semester by October 15.

Graduate Assistantships Stipends for teaching and research assistantships (nine month/20 hours per week) are
awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

Degree Requirements
The department requires 60 credit hours beyond the baccalaureate degree for completion of the Ph.D. To ensure sufficient background for doctoral-level policy courses, students must demonstrate appropriate competence in computing and intermediate economics during their course of study. Course requirements are as follows:

Core courses (21 credit hours)
21 credit hours will be required in the areas of research methods, normative and empirical theory, and policy process and institutions. Contact the department for specific courses.

Additional Requirements (12 credit hours)
In addition, students will select a minimum of 12 credit hours in public policy, theory, or process.

Policy Concentration (15 credit hours)
Students, in consultation with the program director, will develop expertise in a substantive policy area. Policy concentrations (many interdisciplinary) include:

- American National Policy
- Urban Politics and Planning
- Comparative/International Policy
- Policy Analysis and Research
- Social Welfare

Internship (6 credit hours) optional.
The Ph.D. intern program offers an opportunity to gain first-hand experience in select research and administrative positions.

General Examination and Dissertation
Upon completion of course work, students are advanced to candidacy by successfully completing two general examinations, the first covering the fields of public policy institutions, processes, and analysis, and the second covering the student's chosen subfield and area of policy concentration. The degree is awarded upon completion and defense of the Ph.D. dissertation.

Career Outlook

Bachelor of Arts, Bachelor of Science, and Master of Arts in Political Science
Political science graduates have done well in obtaining appropriate employment and in pursuing graduate education. Majors develop communications and decision-making skills, learn to analyze complex policy issues, both domestic and international in scope, and have a thorough understanding of government and politics. Political science is a particularly good undergraduate major for pre-law students. Many other majors pursue graduate education in business, education, public administration, public policy administration, journalism, public relations, non-profit organizations, and many other fields. Guides to careers in political science are available in the department office.

Ph.D. in Political Science
The Ph.D. in political science prepares students for three career areas: 1) government leadership and management positions at the local, state, and federal levels (both for new employees and in-service employees); 2) careers in the private sector, particularly positions in public affairs, policy research, and governmental relations departments of corporations, as well as consulting firms and nonprofit organizations; and 3) research and teaching careers in academic institutions.

Requests for further information about the M.A. or Ph.D. program should be sent to the Director of Graduate Studies, Department of Political Science, University of Missouri-St. Louis, 8001 Natural Bridge Road, 347 SSB, St. Louis, MO 63121-4499.
Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 11(1100), 12(1500), 20(1200), 80(1820), 85(1850), 99(1990), 129(2290), 130(2300), 135(2350), 140(2400), 150(2500), 155(2550), 160(1600), 165(2650), 180(1800), 190(2900), 200(2000), 226(2260), 228(2280), 230(3300), 231(3331), 232(2320), 233(3330), 234(3340), 235(2350), 238(2380), 240(3400), 241(3410), 242(2420), 243(3430), 245(3450), 246(3460), 248(3480), 251(2510), 253(2530), 254(2540), 256(2560), 257(3570), 258(2580), 259(3590), 261(2610), 262(2620), 268(3680), 269(3690), 280(2800), 282(2820), 283(3830), 284(3840), 285(3850), 289(2520), 306(4060), 308(4080), 318(4180), 320(3200), 321(3210), 322(3220), 326(3260), 329(3290), 332(3320), 333(3331), 335(2350), 336(3360), 338(3380), 340(3400), 341(3410), 342(3420), 343(3439), 344(3440), 346(4460), 347(4470), 349(3490), 351(4510), 355(4550), 359(3590), 368(3690), 385(4850), 386(3860), 388(3890), 390(3900), 394(4940), 395(3950).

* Course fulfills the Humanities or Social Sciences breadth of study requirement. Course fulfills Cultural Diversity requirement.

The following courses satisfy the state requirement: PolSci 11(1100), 129(2290), 130(2300), 135(2350), 140(2400), 226(2260), 228, 230(3300), 231(3331), 232(2320), 233(3330), 235(2350), 238(2380), 240(3400), 241(3410), 242(2420), 243(3430), 245(3450), 246(3460), 248(3480), 251(2510), 253(2530), 254(2540), 256(2560), 257(3570), 258(2580), 259(3590), 261(2610), 262(2620), 268(3680), 269(3690), 280(2800), 282(2820), 283(3830), 284(3840), 285(3850), 289(2520), 306(4060), 308(4080), 318(4180), 320(3200), 321(3210), 322(3220), 326(3260), 329(3290), 332(3320), 333(3331), 340(3400), 341(3410), 342(3420), 343(3439), 344(3440), 346(4460), 347(4470), 349(3490), 351(4510), 355(4550), 359(3590), 368(3690), 385(4850), 386(3860), 388(3890), 390(3900), 394(4940), 395(3950).

11(1100) Introduction to American Politics (3) [V, SS, ST] Introduction to basic concepts of government and politics with special reference to the United States, but including comparative material from other systems.

12(1500) Introduction to Comparative Politics (3) [MI, V, SS] This course introduces students to the world of comparative systems of governance. It examines similarities and differences in the basic political structures, institutions and governmental processes in advanced industrial and industrializing countries. It also provides an understanding of fundamental comparative methods based on individual country or case studies. Particular attention is paid to ideologies, political parties, legislatures, and public policy.

15(1550) Women and Polities in the Developing World (3) [MI, V, SS, CD] Women play a central role in the transformation of political, economic, cultural and gender relations in developing nations. This course examines the political role of women in these transformations. In particular, the course examines ways that modernity, universal education, the market economy and globalization have widened the scope of women's public activities; the emergence of social movements driven by the transformation of economic and political roles brought about by the inclusion of women in the political arena; the re-interpretation of religious doctrines, especially those that emphasize women's "return" to the private sphere and legitimate the denial of women's political rights.

20(1200) Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS] (Same as CCJ 20(1200) and Interdisciplinary 20(1200). As a broad liberal arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

45(1450) Introduction to Labor Studies (3) [MI, SS] (Same as Interdisciplinary 45(1450). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and the media.

80(1820) Global Issues (3) [MI, SS] A freshman- and sophomore-level course designed to introduce students to a range of global concerns, including population, hunger, trade, energy, and the environment. The worldwide implications of these and other problems will be considered, as well as their effects on local communities such as St. Louis.
Prerequisite: Biology 001(1012). Must be taken concurrently with Biology 130(1081) for three hours biology credit and three hours of political science credit. A course team-taught by the Biology and Political Science departments, aimed particularly at elementary education majors. Combines natural science and perspectives in environmental concerns, such as air and water pollution, climate change, conservation of nonrenewable resources, and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national, and international levels. Features labs and field trips in addition to lecture and discussion. Three hours of lecture, one hour and fifteen minutes discussion, and three and one-half hours laboratory per week.

Prerequisite: Biology 99(1999), Sociology 99(1999), and Interdisciplinary 99(1990). An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and Psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

Prerequisite: PolSci 11(1100) or consent of instructor. An examination of contemporary state politics in the United States; social, economic, and political determinants of policies; federal-state-local relations; elections, interest groups, and participation; executive, legislative, and judicial institutions and policies, and their impact

Prerequisite: PolSci 11(1100) or consent of instructor. Examination of structure and process of politics in the urban community, with emphasis on their relationships to community power structures

Prerequisite: PolSci 11(1100) or consent of instructor. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process.

This course focuses on the role of political institutions, economic structures and social groups in explaining differences in forms of government and levels of socioeconomic development. It explores in detail one or more of these themes in cases drawn from developing and developed nations.

Prerequisite: Same as Sec Ed 209(3290) Prerequisites: Secondary Education 213(3213) and Political Science 11(1100). Graduate standing or consent of instructor. Adapts the themes and subject matter of American government to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American government, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either History/Sec Ed 257(3257) or 258(3258) or Political Science/Sec. Ed. 209(3209) must be taken the same semester as History/Sec Ed 255(3255) except with special consent of the Social Studies Coordinator. Can be counted towards the Political Science major requirement, but not the American Politics subgroup. Counts towards Social Studies Certification.
226(2260) Law and the Individual (3) [ST]
(Same as CCJ 226(2226). Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea-bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policymaking and dispute resolution.

228(2280) Judicial Politics and Policy (3) [ST]
Prerequisite: PolSci 11(1100) or 20(1200), or consent of instructor. This course is an examination of the American state and federal legal systems. Topics examined in this course include an analysis of the structure, organization and function of courts. Emphasis will be placed on the role of juries, judges, attorneys, litigants, and interest groups in the judicial system. The objective of the course is to evaluate courts as political institutions and analyze the policy-making role of judges.

230(3300) The American Presidency (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. Study of the constitutional, political, legislative, and administrative roles played by the American chief executive in the development of public policy.

231(3331) Congressional Politics (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. An examination of the Congress of the United States, its history and evolution, its contemporary politics, and its role in the national policy-making process. Topics include candidate recruitment, campaigns and elections, representation, committees, legislative leadership, roles and norms, voting alignments, lobbyists and interest groups, oversight of administration, and House-Senate comparisons. The role of Congress in foreign policy, economic policy, and social-welfare policy will be examined.

232(2320) African Americans and the Political System (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. Examination of the status of African Americans in the context of the American political system. The course will focus on a number of issues, including: attitudes of various publics toward racial concerns; nature of problems in specific policy areas (e.g., unemployment, school desegregation, housing, poverty); representation of African Americans in governmental institutions and the private sector; and the role of African American leadership and civil rights groups in the political process.

233(3330) Introduction to Political Behavior (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. An introduction to political behavior employing perspectives from both political psychology and political sociology. Subjects include political socialization, the character of public opinion, citizen participation, group dynamics, the social determination of reality, and the underlying bases of leadership and authority.

234(3340) Politics and the Media (3)
Prerequisite: PolSci 11(1100) or consent of instructor. An analysis of the role the media play in shaping American political life. The first part of the course examines the organizational structures, the economic and psychic incentives, and the social and professional norms that define how television and newspapers report news about public affairs. The second part then considers the nature of a mass-communications society by looking at how reality is defined, the susceptibility of mass publics to persuasion and propaganda, the peculiar form of media election campaigns, and the manner in which the media link changes the basic character of a citizenry.

235(3350) Political Parties and Elections (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. An examination of the part played by parties and elections in American politics. Topics include the historical development of the party system, the organization and management of political parties and campaigns, contemporary changes in the nature of electoral politics, and the effects of elections on public policy.

238(2380) Women in U.S. Politics (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. This course focuses on the relationship between gender and organized politics in the United States. Topics to be addressed include the historical development of women's activism in politics, women as political candidates and elected officials, women's organizations in American politics, women and public policy, women's rights and issues, and women and political leadership. Throughout the class, emphasis will be placed not only on examining the role of women in politics, but also on understanding the role of gender in the construction and evaluation of political institutions, practices and public policies in the United States.

240(3400) Bureaucratic Politics (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. Examination of the policy-making process within public organizations and the forces influencing the making of bureaucratic policy. Study of the role of the bureaucracy as one of several "actors" in the larger policy process.
241(3410) Politics of Business Regulation (3)  
Prerequisite: PolSci 11(1100) or consent of instructor. This course will examine the role of governmental decision-making processes in regulatory policy, including congressional politics, presidential initiatives, administrative rulemaking, and society wide constraints. The impact of government regulation and alternative means for accomplishing regulatory goals (e.g., mandatory standards or incentive systems) will also be considered. Selected areas of regulation which may be covered include: equal employment policies, occupational health and safety policies, environmental policies, employment policies, and urban policies.

242(2420) Introduction to Public Policy (3) [ST]  
Prerequisite: PolSci 11(1100) or consent of instructor. Study of differing approaches to understanding the public policy process. Course surveys the application of social science to public issues and problems.

243(3430) Union Leadership and Administration (3)  
Prerequisite: Consent of instructor. This course will focus on the roles and challenges of union leadership in a changing environment. Topics will include the union leader's roles as representative, organizer and educator as well as administrative responsibilities within the union and the relationship with enterprise management in both adversarial and participatory situations. Options for leadership style and organizational models will be discussed and explored in both theory and practice. Leaders will develop their skills of motivation, speaking, strategic planning and managing complex campaigns and diverse organizations.

245(3450) Urban Administration (3) [ST]  
Prerequisite: PolSci 11(1100) or consent of instructor. Study of administrative machinery and practices of metropolitan government, how metropolitan areas organize themselves to provide services, how urban policies are made and implemented, how budgeting and personnel recruitment processes operate, and how these relate to urban policies.

246(3460) The Politics of Poverty and Welfare (3)  
Prerequisite: PolSci 11(1100) or consent of instructor. An examination of the structure of income inequality in the U.S. and public policies designed to redistribute wealth and to treat poverty. The history of welfare programs, the growth of the welfare state, and attempts to cut social spending are closely examined.

248(3480) Environmental Politics (3)  
Prerequisite: PolSci 11(1100) or consent of instructor. This course examines the process of environmental policy-making and key environmental issues. Topics include national and international policies toward air and water pollution, energy use, solid and toxic waste disposal, global warming, overpopulation, and wilderness and wildlife conservation.

251(2510) Comparative Politics of Europe (3)  
Prerequisite: PolSci 12(1500) or consent of instructor. Introduction to the major political systems of Europe. The course will emphasize political culture, political parties, interest groups, and political behavior. It will also focus on political institutions and policy making. While individual countries will be examined separately, the course will also emphasize comparison between systems.

253(2530) Political Systems of South America (3) [CD]  
Prerequisite: PolSci 12(1500) or consent of instructor. An introduction to the study of the political systems of South America. Examination of the cultural context that has shaped the political, economic, and social development of states in the region.

254(2540) Political Systems of Mexico, Central America, and the Caribbean (3) [CD]  
Prerequisite: PolSci 12(1500) or consent of instructor. An introduction to the study of the political systems of Mexico, Central America, and the Caribbean. Examination of the cultural context that has shaped the political, economic, and social development of these countries.

256(2560) Russia and the New Republics (3)  
Prerequisite: PolSci 12(1500) or consent of instructor. Examination of political-economic conditions responsible for the creation, collapse, and reconstruction of the former Soviet Union, with emphasis on new elites and interest groups, problems of democratic transition, ethnic conflict and socio-economic reform.

257(3570) Gender; Race and Public Policy (3)  
Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Raises the question as to whether "more women in politics," stemming from diverse economic, racial, ethnic backgrounds and age groups, will necessarily result in better policies for women and men. Compares gendered and racialized impacts of a wide array of public policies (in the areas of education, employment, health care, welfare, and reproductive technologies) across a broad sample of advanced industrial societies. Analyzes the "empowerment" potential of new equality policies being generated at the international and supranational levels (e.g., in the UN and the European Union).

258(2580) African Politics (3) [CD]  
Prerequisite: PolSci 12(1500) or consent of instructor. An introduction to the nature of societies, governments, and international relations in Africa. The course deals with forms of governance on the continent, regional groupings of states, and persistent conflicts within and among states. Problems of economic underdevelopment, food supplies, health and population trends, and cultural change are analyzed, along with the role of outside major power intervention.
284(3840) European International Relations (3)
Prerequisite: PolSci 11(1100), or 12(1500) or consent of instructor. European international relations since World War II. Emphasis upon developments from the Cold War to Detente emphasizing such concepts as containment, Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security.

285(3850) International Organizations and Global Problem Solving (3)
Prerequisite: PolSci 11(1100) or 12(1500), or consent of instructor. Introduction to the study of international organization. The course focuses on relationships between nation states and "nonstate" actors (e.g., global intergovernmental organizations such as the United Nations, and nongovernmental organizations such as multinational corporations) in world politics and on the role of international institutions in such problems as economic development, management of resources, and control of violence across national boundaries.

289(2520) Middle Eastern Politics (3) [CD]
Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Survey of political movements, governments, and international conflicts in the Middle East. Islam, nationalism, ideologies, and economic systems will be studied. The effects of oil and the military will also be considered.

295(3940) Public Affairs Internship (1-6)
Prerequisites: Junior standing and consent of instructor. Independent study involving work with an appropriate public or private agency. A maximum of 6 credit hours may be earned.

304(4040) Survey Research Practicum (3)
(Same as Econ 304 (4140) and Sociology 304(4040).
Prerequisites: Junior standing and consent of the instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results.

306(4060) Theory of Decisions and Games (3)
Prerequisite: Six hours of Philosophy and junior standing, PolSci 401(6401) (or the equivalent) or consent of instructor. (Same as Philosophy 365(4465). A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content.
308(4080) Program Evaluation (3)
Prerequisites: PolSci 11(1100), or 140(2400), and one of the following: BA 250(3300), Sociology 220(3200), Criminology and Criminal Justice 220(2220), or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

318(4180) Social Choice in Political-Economic Systems (3)
Prerequisites: Two courses in Economics, Political Science, or Sociology. A study of the mechanisms of social choice from the standpoint of individuals and institutions maximizing their objectives. This area draws on work done by sociologists, political scientists, and economists.

320(3200) Constitutional Law (3) [ST]
Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. Study of leading American constitutional principles regarding legislative, executive, and judicial power, federalism, the commerce clause, and economic due process as they have evolved through the important decisions of the U.S. Supreme Court.

321(3210) Civil Liberties (3) [ST]
Prerequisite: PolSci 11(1100), or 20(1200), or 320(3200), or consent of instructor. Civil rights in the American constitutional context, emphasizing freedom of religion, freedom of expression, minority discrimination, and the rights of defendants.

322(3220) Labor Law (3)
Prerequisite: Consent of instructor. In this course, participants will examine the role of government in the regulation of labor-management relations in the United States. While the focus of the course will be on federal laws regulating private sector labor relations, parallel issues addressed in the Railway Labor Act and state public sector labor relations law will also be covered. Specific topics include the legal framework for the organization of workers, definition of prohibited or unfair labor practices of employers and unions, legal regulation of the collective bargaining process, regulation of the use of economic weapons in labor disputes, enforcement of collective bargaining agreements, and the regulation of internal trade union activities.

326(3260) Judicial Decision-Making (3) [ST]
Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. The purpose of this course is to investigate the processes by which cases get to the U.S. Supreme Court, are accepted or denied, and are decided. The means for investigating this process will be a semester-long simulation. Students will assume the roles of the current justices of the Supreme Court, the Solicitor General, and other litigants in the judicial system.

329(3290) Studies in Public Law (3)
Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. Selected topics in public law. May be repeated.

332(3390) Studies in American Politics (3)
Prerequisite: PolSci 11(1100) or consent of instructor. Selected topics in American politics. May be repeated.

333(3370) Mock Constitutional Convention (3) [ST]
Prerequisite: PolSci 11(1100) or consent of instructor. An active exercise in political imagination. Students make proposals and bargain with each other to write a constitution for the United States in the 21st century. Students are encouraged to develop new views of what is a desirable society and to gain a richer appreciation of how practical politics are conducted. The course is designed for majors and nonmajors who enjoy political discussion and have a genuine interest in political life.

340(3400) Organizational Politics (3)
Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. Examination of public sector organizations and the range of factors affecting their operation. Specific areas of attention will include theories of organization structure and management, decision theory, organizational/environment interactions, interorganizational relations, and theories of organizational change and development.

341(3470) Collective Bargaining (3)
Prerequisite: Consent of instructor. This course involves a study of collective bargaining processes including contract negotiations, contract administration, and methods for the resolution of bargaining disputes. Both theoretical and applied issues in collective bargaining will be addressed. Specific topics include the economic determination of bargaining power, legal constraints on the bargaining process, negotiations strategies and techniques, and the use of mediation and arbitration in the resolution of bargaining disputes.

342(3420) Public Personnel Management (3)
Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. A study of personnel practices in the public sector, including recruitment, job development, labor relations, and administration of equal employment-affirmative action programs.

343(3439) Studies in Policy Formation (3)
Prerequisite: Consent of instructor. Selected topics in policy formation. May be repeated.

344(3440) Public Budgeting (3)
Prerequisite: PolSci 11(1100) or consent of instructor. Budgeting is the study of "who gets what" and who pays for it. This course examines the administration and politics of federal, state, and local government budgets. Students gain experience in interpreting budget documents and making budget choices, using electronic and other resources.
346(4460) Urban Planning and Politics (3) [ST]
Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. Examination of the political processes of urban areas as they relate to the planning of services and facilities. 6

347(4470) Introduction to Environmental Law and Policy (3)
Prerequisite: Senior or graduate standing or consent of instructor. Survey of the most prominent federal laws governing environmental compliance and pollution control. Examines laws applicable to environmental impact statements, air pollution, water pollution, and hazardous waste. Addresses policy concerns relative to the use of technological capabilities as compared with health risks in setting environmental standards. Discusses the need for environmental regulation to protect societal resources.

349(3490) Studies in Public Administration (3)
Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. Selected topics in public administration. May be repeated.

351(4510) Comparative Public Policy and Administration (3)
Prerequisite: PolSci 12(1500) or consent of instructor. A comparative study of the characteristics of public administrators, their institutions and environments in Western democratic, developing nations, and communist political systems.

355(4550) Democratization in Comparative Perspective (3)
Prerequisite: PolSci 12(1500) or consent of instructor. This course explores the meaning of democracy and the nature of transitions to democracy, particularly the processes of political liberalization and democratization that follow the breakdown of authoritarian rule. Cases will be drawn from Latin America and other regions.

359(3590) Studies in Comparative Politics (3)
Prerequisite: PolSci 12(1500) or consent of instructor. Selected topics in comparative politics. May be repeated.

368(3690) Studies in Political Theory (3)
Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Selected topics in political theory. May be repeated.

385(4850) International Law (3)
Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Study of the international legal system, including the content and operation of the laws of war and peace, how law is created and enforced with regard to the oceans and other parts of the globe, and the relationship between international law and international politics.

386(3860) Studies in War and Peace (3)
Prerequisites: Junior standing and PolSci 11(1100), or 12(1500), or consent of instructor. Exploration, development, and testing of theories about the causes and consequences of war, peace, and conflict among nations. A broad range of literature on war and peace will be reviewed and applied to crisis situations in the international system.

388(3890) Studies in International Relations (3)
Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Selected topics in international relations. May be repeated.

390(3900) Special Readings (1-10)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

391A(4911) Management Issues in Nonprofit Organizations: Staff Management Issues (1)
Prerequisite: Junior Standing. (Same as Social Work 391A(4911) and Public Policy Administration 391A(4911). This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; and legal issues that affect these processes.

391B(4912) Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)
Prerequisite: Junior Standing. (Same as Social Work 391B(4912) and Public Policy Administration 391B(4912). This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

391C(4913) Management Issues in Nonprofit Organizations: Financial Issues (1)
Prerequisite: Junior Standing. (Same as Social Work 391C(4913) and Public Policy Administration 391C(4913). This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.
394(4940) Leadership and Management in Nonprofit Organizations (3)
(Same as Public Policy Administration 394(4940), Social Work 394(4940), and Sociology 308(4940). Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

395(3950) Senior Seminar in Political Science (3)
Prerequisites: Senior standing and consent of instructor. Required of all political science majors in their last year of course work as an integrative capstone experience. Emphasis is on student-faculty interaction in a seminar format designed to engage upper-level students in a critical examination of a broad theme in political science, leading to the production of a major research paper. Topics vary. May be repeated. This course is not available for graduate student credit.

396(4960) American Philanthropy and Nonprofit Resources Development (3)
Prerequisite: Junior standing or consent of instructor. (Same as Social Work 396(4960) and Public Policy Administration 396(4960)). This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

400 (6400) Analytic Perspectives in Political Science (3)
An introduction to the graduate study of political science. The course presents a number of analytic approaches to the scientific examination of a wide variety of political phenomena.

401(6401) Introduction to Policy Research (3)
(Same as Public Policy Administration 401(6010). Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.
416(6416) Family Policy (3)
Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as Social Work 452(6200) and Sociology 452(6200).) Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

417(6417) Income and Pension Policy for the Aged (3)
Prerequisite: Graduate standing or consent of instructor. (Same as GER 417(6417) and PPA 417(6170) and SW 417(6417). (MSW student normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

418(6418) Social and Economic Development Policy (3)
Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as SW 462(6250).) Examines major trends and alternatives in social and economic development policy in state, national, and international perspectives. Students will develop skills in policy analysis and development.

419(6419) Cases in Public Policy Analysis (3)
(Same as Public Policy Administration 419(6190)) Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning.

420(6420) Proseminar in Public Law (3)
Prerequisite: Graduate standing. Study of judicial systems and processes (judges, courts, litigants, and juries) and evaluation of legal policies (compliance, impact, and deterrence).

421(6421) Seminar in Public Law (3)
Research problems and designs, models and approaches to the study of public law. May be repeated for credit when the subject matter is different.

422(6422) Law, Courts, and Public Policy (3)
Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review, discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

425(6425) Directed Readings and Research in Public Law (1-10)
Independent study through readings, reports, research projects, and conferences.

430(6430) Proseminar in American Politics (3)
Study of individual and group political behavior, including socialization, participation, consensus formation, representation, and legislative and judicial behavior.

431(6431) Seminar in American Politics (3)
Research problems and design in American political process and behavior. May be repeated for credit when the subject matter is different.

432 (6432) Intergovernmental Relations (3)
Prerequisite: Graduate standing. In the United States, nearly all domestic policy is implemented through an extremely complex intergovernmental system in which the federal government administers grants-in-aid or sets standards for states and localities that administer programs. This course will analyze this policy system by: (1) tracing the origins and evolution of American federalism; (2) analyzing the grants-in-aid system, especially the New Deal; (3) comparing the United States system with federal and unitary policy systems in other industrialized nations.

433(6433) Elections, Public Opinion, and Public Policy (3)
Prerequisite: Graduate standing. This course provides an opportunity for graduate students to examine electoral politics and democratic governance. It includes a historical review of the dynamics of the American party system, paying particular attention to the ways that politicians translate social and economic change into the political system. It surveys the scientific community's understanding about mass political behavior, covering such topics as the nature of political beliefs, partisanship, political trust, tolerance, ideology, motives for participation, and so on. Then it gives particular attention to the instruments that seem to shape public opinion - the family, the social peer group, and the mass media. Finally, it presents analyses of the contemporary political system in terms of the links between citizen preferences, electoral outcomes, and the government's provision of public policies.

435(6435) Directed Readings and Research in American Politics (1-10)
Independent study through readings, reports, research projects, and conferences.
440(6440) Proseminar in Public Administration (3)
(Same as Public Policy Administration 440(6400))
Examination of major approaches to analyzing public policies and their administration. Emphasis is on the effects of administrative organization and procedures on policy decisions and their impacts. Specific topics may include administrative accountability, intergovernmental relations, public-private interaction, implementation processes, bureaucratic expertise, the legal environment of public policy administration, and public service and merit issues.

441(6441) Seminar in Public Administration (3)
Research problems and design in public administration. May be repeated for credit when the subject matter is different.

442(6442) The Policy Process (3)
Prerequisite: Graduate standing. The course will require a major research project using federal documents and other primary sources of information about the United States policy process. Topics will include the sources of public policy; the policy agenda; policy design, legitimation, and implementation.

443(6443) Health Care Policy (3)
Prerequisite: Graduate standing or consent of instructor. (Same as PPA 443(6430), GER 443(6443) and SW 443(6443). (MSW students will normally take the social policy foundation course before enrolling in this course). Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444(6444) Seminar in Public Policy and Aging (3)
(Same as Public Policy Administration 444(6444) and Gerontology 444(6444). Prerequisite: Consent of instructor. The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

445(6445) Directed Readings and Research in Public Administration (1-10)
Independent study through readings, reports, research projects, and conferences.

446(6446) Selected Topics in Health Care Policy (3)
(Same as Public Policy Administration 446(6460) and Sociology 446(6464). Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

447(6447) Seminar in Public Policy (3)
Prerequisite: Graduate Standing. Research seminar aimed at producing a substantial research project in the areas of public policy processes and outcomes. The seminar may focus on specific policy processes such as agenda-setting, policy formulation, or policy adoption, or it may focus on the politics of specific policy areas such as environmental programs, social legislation or regulation. May be repeated for credit when the subject matter is different.

448(6448) Political Economy and Public Policy (3)
Prerequisite: Graduate standing. This course examines political economy in its contemporary manifestations as public choice and as the study of the ways in which institutional power shapes economic policies and performance. The course explores the origins and major concepts of political economy, the institutions of economic policy-making and economic policies in the U.S. It emphasizes the consequences of budget constraints, inflation, unemployment, and sectoral decline on the design and administration of public programs at all levels of government.

449(6449) Human Resources in the Public Sector (3)
Prerequisite: PPA 460(6600) or consent of instructor. (Same as SW 469(6449) and PPA 449(6490). Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

450(6450) Proseminar in Comparative Polities (3)
Classification and topology of political systems; structural-functional analysis; political culture, ideology, affiliation and participation; decision-making processes; political roles; organization of authority.

451(6451) Seminar in Comparative Politics (3)
Research problems and design in comparative politics. May be repeated for credit when the subject matter is different.
452(6452) Public Policy of Conservation and Sustainable Development (3)
(Same as Biology 445(6250) Prerequisites: Graduate standing in Political Science or Biology and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of environmental policymaking in developing and developed economies.

455(6455) Directed Readings and Research in Comparative Politics (1-10)
Independent study through readings, reports, research projects, and conferences.

457(6457) Seminar in East Asian Politics (3)
Prerequisite: Graduate standing or consent of instructor. Study of concepts and research on the political culture, ideology, groups, political processes and institutions, and policy outcomes in the Chinese and/or Japanese political systems.

458(6458) Seminar in European Politics (3)
Prerequisite: Graduate standing or consent of instructor. Study of national political cultures, ideologies, regional security issues, national as well as supranational political institutions, and policy processes in Europe, with emphasis on post Cold-War developments.

459(6459) Seminar in Latin American Politics (3)
Prerequisite: Graduate standing or consent of instructor. This course focuses on the twin issues of economic and political change in Latin America. It explores shifts from open free-market models and provides tools to assess recent transitions from authoritarianism to democracy. Country cases include Mexico, Brazil, Argentina, Chile. Two Central American countries, El Salvador and Nicaragua plus Cuba also will receive attention.

460(6460) Proseminar in Political Theory (3)
Study of concepts and problems in normative political theory.

461(6461) Seminar in Political Theory (3)
Research problems and design in political theory. May be repeated for credit when the subject matter is different.

462(6462) Political Theory and Public Policy (3)
This course covers the ideological and ethical context of public policy and public policy analysis. Special attention is given to the way in which different contexts produce both different public policy and different ways of understanding public policy. Questions addressed include accountability, professionalism, freedom, justice, equality, and, in general, ethical issues faced by both the policy maker and the policy analyst.

465(6465) Directed Readings and Research in Political Theory (1-10)
Independent study through readings, reports, research projects, and conferences.

470(6470) Proseminar in Urban Politics (3)
Examination of the relationships among the social, economic, and political systems of urban areas. Urban political structure, patterns of influence, political participation, and communication and political change. Special attention to problems of access to and control of urban political systems.

471(6471) Seminar in Urban Politics (3)
Research problems and design in urban and regional politics. May be repeated for credit when the subject matter is different.

475(6475) Directed Readings and Research in Urban Politics (1-10)
Independent study through readings, reports, and conferences.

480(6480) Proseminar in International Relations (3)
Examination of various approaches to the study of international politics and foreign policy, focusing on studies of conflict, decision making, international political economy, and related topics. Included are realist, idealist, and Marxist perspectives.

481(6481) Seminar in International Relations (3)
Research problems and design in international politics. May be repeated for credit when the subject matter is different.

482(6482) International Political Economy (3)
Prerequisite: Graduate standing. This course will examine the theoretical and policy issues of international political economy. In particular, it will focus on the politics of international trade, finance and investment. It will also analyze the themes of interdependence, hegemony, and dependency, as well as consider relations between developed and developing countries. Finally, the relative usefulness of liberal, Realist and Marxist approaches to the study of international political economy will be weighed.

485(6485) Directed Readings and Research in International Relations (1-10)
Independent study through readings, reports, research projects, and conferences.

488(6488) Studies in International Relations (1-6)
Prerequisite: Graduate standing. Selected topics in international studies. May be repeated for credit provided the topic of the course is different each time.
491(6490) Strategic and Program Planning for Nonprofit Organizations (3)
Prerequisites: Graduate standing or consent of instructor.
(Same as PPA 455(6550) and SW 455(6491). Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, a vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

494(6494) Thesis Research (1-10)
Arranged.

495(6495) Internship (1-6)
Independent study involving work with an appropriate public or private agency.

499(6499) Dissertation Research (1-10)
Arranged
Department of Psychology

Faculty

Miles L. Patterson, Professor*, Chairperson
Ph.D., Northwestern University
Gary K. Burger, Professor*
Ph.D., Loyola University
James A. Breaugh, Professor**
Ph.D., Ohio State University
Robert J. Calsyn, Professor*, Director of Gerontology
Ph.D., Northwestern University
Michael Harris, Professor**
Ph.D., University of Illinois-Chicago
Edmund S. Howe, Professor Emeritus
Ph.D., University of London
Alan G. Krasnoff, Professor Emeritus
Ph.D., University of Texas
Samuel J. Marwit, Professor*
Ph.D., State University of New York at Buffalo
Patricia A. Resick, Curators' Professor*, Director, Center for Trauma Recovery
Ph.D., University of Georgia
Jayne E. Stake, Professor*, Director, Doctoral Program in Clinical Psychology
Ph.D., Arizona State University
George T. Taylor, Professor*, Director, Doctoral Program in Experimental Psychology, Director Master's Program
Ph.D., University of New Mexico
Brian Vandenberg, Professor*
Ph.D., University of Rochester
James T. Walker, Professor Emeritus
Ph.D., University of Colorado
Dominic J. Zerbolio, Jr., Professor Emeritus
Ph.D., Michigan State University
Carl Bassi, Associate Professor**
Ph.D., Vanderbilt University
Therese M. Macan, Associate Professor*
Ph.D., Rice University
Paul W. Paese, Associate Professor*, Director, Doctoral Program in Industrial/Organizational Psychology
Ph.D., University of Illinois
Ann M. Steffen, Associate Professor*,
Ph.D., Indiana University
Vetta L. Sanders Thompson, Associate Professor*
Ph.D., Duke University
Mark E. Tubbs, Associate Professor*, Associate Chair
Ph.D., University of Houston
Jeffrey N. Wherry, Associate Professor#, Director, Kathy J. Weinman Children's Advocacy Centre
Ph.D., University of Southern Mississippi
Michael G. Griffin, Assistant Professor*
Ph.D., University of Missouri-St. Louis
Donald D. Lisenby, Assistant Professor Emeritus
Ph.D., Washington University
Paul C. Notaro, Assistant Professor
Ph.D., University of Michigan

Michael J. Stevens, Assistant Professor+
Ph.D., Purdue University
Robert N. Harris, Clinical Associate Professor*
Ph.D., University of Kansas
Tara Galovski, Research Assistant Professor
Ph.D., University of Albany-State University of New York
Pallavi Nishith, Research Associate Professor
Ph.D., Washington State University
Larry O'Leary, Adjunct Associate Professor
Ph.D., Saint Louis University
John W. Rohrbaugh, Adjunct Associate Professor
Ph.D., University of Illinois-Urbana Champaign
David E. Smith, Adjunct Associate Professor
Ph.D., Colorado State University
Alene S. Becker, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
Ruth Davies, Adjunct Assistant Professor
Ph.D., Washington University
Timothy J. Jovick, Adjunct Assistant Professor
Ph.D., Saint Louis University
Leslie Kimball, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
Lee Konzak, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
Gary A. Morse, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
Sandra K. Seigel, Adjunct Assistant Professor
Ph.D., Saint Louis University
Linda Sharpe-Taylor, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
Mary K. Suszko, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
James H. Wallhermfechtel, Adjunct Assistant Professor
Ph.D., Saint Louis University
Audrey T. F. Wiener, Adjunct Assistant Professor
Ph.D., Saint Louis University
David F. Wozniak, Adjunct Assistant Professor
Ph.D., Washington University
* members of graduate faculty
+ Primary appointment in the College of Business Administration
# Primary appointment in College of Optometry

General Information

Degrees and Areas of Concentration The Psychology department offers work leading to the B.A. degree in Psychology. In conjunction with course work in the department, students have the opportunity to do research in a variety of areas, including animal and human learning, physiological, industrial/organizational, cognitive, personality-social, developmental, clinical, and community psychology. Students should consult with their advisor in selecting a program of study. However, the department offers a number of focused areas of study as an aid to students in selecting courses. These include...
developmental psychology, community mental health, and industrial/organizational psychology.

The department also offers a terminal M.A., as well as three Ph.D. programs: clinical psychology, experimental psychology, and industrial/organizational psychology.

Facilities Among the department's physical facilities are videotaping systems. The electronics technician, animal and human experimental laboratories and a wide range of research equipment, including portable videotaping systems. The department also has an electronics technician.

Minor in Psychology The department offers a minor in Psychology to students who have a special interest in this field but wish to major in another discipline.

Undergraduate Studies

General Education Requirements
Majors must satisfy the university and college general education requirements. Courses in Psychology may be used to meet the social sciences requirement.

Majors may not take Psychology courses on a satisfactory/unsatisfactory basis.

Undergraduate Psychology Office
Advisers in the Undergraduate Psychology Office (108 Stadler Hall, 516-6676) are available to provide specific information on degree requirements and course offerings, answer questions about career options, and information about graduate work in Psychology.

Degree Requirements

Bachelor of Arts in Psychology
At least 32, but no more than 45, hours must be completed in courses taught by or cross listed with the Psychology department. Candidates must have a cumulative grade point average of 2.0 or better in the major. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the major.

The following core curriculum is required:
Psych 3(1003), General Psychology
201(2201), Psychological Statistics
219(2219), Research Methods

Note: Students must fulfill the university's mathematical skills requirement before taking Psychology 201(2201), Psychological Statistics. Psychology 201(2201) is a prerequisite for Psychology 219(2219).

In addition to the core curriculum, at least 22 additional credit hours in Psychology must be taken. At least three of these courses totaling a minimum of 9 hours must be at the 300-level. Multiple enrollments in Psychology 390(3390), Directed Studies, count as no more than one 300-level course. No more than 6 hours of independent study courses (Psychology 295(3295), Selected Projects in Field Placement, and Psychology 390(3390), Directed Studies may be counted toward the 32-hour minimum needed for graduation.

Graduate School Preparation
This program is designed for students planning to pursue doctoral studies in Psychology. In addition to the core curriculum, students are advised to take Psych 356(4356), History and Systems of Psychology, and at least one laboratory course in psychology.

Students intending to pursue graduate programs in clinical psychology should, in addition, take courses from the following group:

160(2160), Social Psychology
211(2211), Physiological Psychology
212(2212), Principles of Learning
216(2216), Personality Theory
245(2245), Abnormal Psychology
270(2270), Developmental Psychology: Infancy, Childhood & Adolescence
272(2272), Developmental Psychology: Adulthood and Aging

Students are also encouraged to become involved in independent research (Psych 390(3390), Directed Studies).

Developmental Psychology
This focus area is ideal for double majors in education and Psychology and for Psychology majors with a general interest in the area of development. In addition to the core curriculum, students are advised to take at least five of the following Psychology courses with at least two at the 300 level:

216(2216), Personality Theory
270(2270), Developmental Psychology: Infancy, Childhood & Adolescence
272(2272), Developmental Psychology: Adulthood and Aging
295(3295), Selected Projects in Field Placement
305(4305), Psychological Statistics
306(4306), Thinking and Cognition
311(4311), Cognitive Development
340(3340), Clinical Problems of Childhood
349(4349), Human Learning and Memory
356(4356), Thinking and Cognition
373(4373), Psychology of Aging
376(4376), Mental Health and Aging

Community Mental Health
Designed for students interested in counseling and community programs, this focus area is especially suitable for double majors in another social science, particularly in social work and sociology. In addition to the core curriculum, students are advised to take at least five of the following courses in Psychology, with at least two at the 300 level:

211(2211), Physiological Psychology
212(2212), Principles of Learning
216(2216), Personality Theory
245(2245), Abnormal Psychology
270(2270), Developmental Psychology: Infancy, Childhood & Adolescence
272(2272), Developmental Psychology: Adulthood and Aging
295(3295), Selected Projects in Field Placement
305(4305), Psychological Statistics
306(4306), Social Development
340(3340), Clinical Problems of Childhood
349(4349), Human Learning and Memory
356(4356), Thinking and Cognition
373(4373), Psychology of Aging
376(4376), Mental Health and Aging

College of Arts & Sciences
Department of Psychology
160(2160), Social Psychology  
161(2161), Helping Relationships  
225(2225), Behavior Modification  
232(2232), Psychology of Victims  
235(4235), Community Psychology  
245(2245), Abnormal Psychology  
256(2256), Environmental Psychology  
295(3295), Selected Projects in Field Placement  
340(3340), Clinical Problems of Childhood  
346(3346), Introduction to Clinical Psychology  
365(4365), Psychological Tests and Measurements  
376(4376), Mental Health and Aging

Industrial/Organizational This focus area is designed for students interested in human resource management, performance assessment, personnel training, organizational behavior, and related fields. This area would be suitable for Psychology majors pursuing either a double major or a minor in business administration. In addition to the core curriculum, students are advised to take the following five Psychology courses.

160(2160), Social Psychology  
222(2222), Group Processes in Organizations  
318(3318), Industrial and Organizational Psychology  
320(3320), Personnel Assessment  
365(4365), Psychological Tests and Measurements

Students interested in this area might also wish to consider one or two of the following courses which are offered outside the Psychology department:

BA 210(3600), Management as a Behavioral Science I  
BA 311(3611), Management as a Behavioral Science II  
BA 312(3622), Industrial and Labor Relations  
BA 319(3624), Employee Training and Development  
Sociology 304(4040), Survey Research Practicum

Requirements for the Minor
Candidates must take a minimum of 15 hours in courses taught by or cross-listed with the Psychology department, including at least 6 hours at the 300 level.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Graduate Studies

Admission Requirements
In addition to meeting the general admission requirements of the Graduate School, applicants should have completed undergraduate courses in general psychology, psychological statistics, and research methods. Each doctoral program has additional admission requirements specific to the program.

Teaching Assistantships Stipends for teaching assistantships are available for the doctoral programs only. Educational fees are waived for teaching assistants.

Applications Each program has its own deadline for completed applications. They are as follows:

Ph.D. in Psychology:  
Clinical Psychology--January 15  
Industrial/Organizational Psychology--February 1  
Experimental Psychology--February 1

M.A. in General Psychology--February 1

Master of Arts in Psychology
The University of Missouri-St. Louis offers a flexible program of studies leading to the master of arts degree in general Psychology. Course work is possible, depending upon student demand, in several areas of experimental and applied Psychology (e.g., Psychobiology and behavioral neuroscience; human learning, memory, and cognition; industrial/organizational psychology). The M.A. degree does not constitute a license to practice in Missouri or elsewhere as a professional psychologist. The M.A. program does not offer course work in either counseling or clinical psychology.

There is no thesis or language requirement. Part-time or full-time enrollment is permissible. The M.A. degree is a terminal degree and is separate from the Ph.D. program in Psychology.

The M.A. in Psychology requires a total of 32 semester hours of course work. Students must take the following set of quantitative courses:

421(7421), Quantitative Methods I  
422(7422), Quantitative Methods II

Elective courses will constitute the remaining hours needed for the degree. All programs of study for M.A. students require the approval of a member of the departmental M.A. advisory committee.

Ph.D. in Psychology
The doctoral program is organized around courses and directed research experience that emphasize the scientific approach to the study of psychology. Courses in the areas of quantitative methods, design and methodology, personality, motivation, social psychology, learning, and cognition are focal in the program.

Ph.D. Programs
There are three distinct programs within the Ph.D. Each has its own specific course and research requirements. Handouts describing these requirements are available from the department on request. The following briefly describes each program.
Clinical Psychology

The clinical psychology program has been fully accredited by the American Psychological Association since 1977 and is patterned upon the scientist-practitioner model of clinical training. The clinical psychology program requires five years of full-time study. Students are not considered for admission on a part-time basis. Through the medium of courses, practicum, and research experiences, this emphasis area prepares clinical psychologists for careers in research, teaching, and clinical practice.

Students in the clinical psychology program participate for three years in the Psychology Department's Community Psychological Service. This facility provides psychological services to the public and consultation to outside agencies. Students also receive clinical experience in clerkships and during a full-time year-long internship. Research requirements include an initial independent research project, a major critical review of research in a specialty area, and a dissertation.

General Experimental Psychology

The general experimental program provides opportunities for study and research in the areas of cognitive psychology and behavioral neuroscience. Full-time enrollment is encouraged, although part-time enrollment is possible.

Industrial/Organizational Psychology

The industrial/organizational psychology program is offered in cooperation with selected faculty from the College of Business to prepare students for careers in industry or academia. This emphasis provides "industrial" training in areas such as personnel selection, training, and test development/validation, as well as "organizational" training in areas such as work motivation, leadership, and group processes. Research and other training experiences in various settings are also incorporated.

Clinical Psychology Respecialization-Advanced Graduate Certificate Program

This program is designed for graduates of accredited doctoral programs in psychology who wish to receive training in the specialty field of clinical psychology. Respecialization students are trained within the context of the UM-St. Louis Clinical Psychology Doctoral Program, which is accredited by the American Psychological Association. The program provides an integrated sequence of training experiences, including didactic course work and practicum placements. Core graduate-level psychology educational requirements not completed elsewhere are included in the respecialization student's course of study.

Graduate Certificate in Trauma Studies

Requirements

The graduate certificate is awarded upon the completion of 18 credit hours of coursework on the topic of trauma studies. No more than nine hours of graduate level independent research or fieldwork may be used for the certificate. The coursework for the certificate must be taken in at least two departments and may include no more than three hours at the 300-level. The courses meeting the requirements for the certificate include:

- Criminology 325(3325), Gender, Crime, and Justice
- Criminology 350(4350), Victimology
- Criminology 432(6432), Criminal Law
- Criminology 443(6443), Violent Crime
- Criminology 446(6446), Sex Crimes
- Criminology 448(6448), Victimization
- Psychology 447(7447), Trauma and Recovery
- Psychology 408(7408), Psychological Perspectives on Death and Dying
- Psychology 398(4398)/Social Work 398(4398), Child Maltreatment: A Multidisciplinary Approach
- Social Work 310(3601), Child Abuse and Neglect
- Psychology 399(4399)/Social Work 399(4399), Seminar: Child Sexual Abuse

Career Outlook

The undergraduate major in Psychology can lead to further training at the graduate level, function as a major within a general liberal arts degree, or offer some degree of specialization in such areas as developmental psychology, industrial/organizational psychology, and community mental health. Job opportunities with a bachelor's degree include working in business, social welfare, and probation and parole. For more career information see an adviser in the Undergraduate Psychology Office (Room 108 Statler). To function specifically as a psychologist, requires a graduate degree and students with such an interest should plan for this additional training.
Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences and in that Bulletin: 3(1003), 102(1102), 140(2140), 160(2160), 161(2161), 162(2162), 200(2200), 201(2201), 211(2211), 212(2212), 216(2216), 219(2219), 222(2222), 225(2225), 230(2230), 232(2232), 235(4235), 245(2245), 256(2256), 268(1268), 270(2270), 272(2272), 295(3295), 300(4300), 301(4301), 302(3302), 303(4303), 306(4306), 307(4307), 308(4308), 310(4310), 311(4311), 312(4312), 314(4314), 317(3317), 318(3318), 320(3320), 340(3340), 346(3346), 349(4349), 356(4356), 357(4357), 361(4361), 365(4365), 373(4373), 374(4374), 375(4375), 376(4376), 380(4380), 390(3390), 392(4392), 398(4398).

3(1003) General Psychology (3) [SS]
A broad introductory survey of the general principles of human behavior.

102(1102) Women, Gender and Diversity (3) (Same as Interdisciplinary 102(2102) & Sociology 102(2102). An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. Explores issues of power, identity, and relationships in women's lives.

140(2140) Female Sexuality (3) Prerequisites: Psych 3(1003), or Biology 1(1012), or its equivalent. This course will present a biological-psychological orientation toward the study of female sexuality. Topics include: sexual anatomy, hormonal influences on sexual behavior, psychosexual development, sexual attraction and relationships, sexual response and dysfunction, menstruation, pregnancy, menopause, reproductive health issues, and social issues in sexuality.

160(2160) Social Psychology (3) (Same as Sociology 160(2160). Prerequisite: Psych 3(1003) or Sociology 1(1010). Study of interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

161(2161) Helping Relationships (3) Prerequisites: Psych 3(1003) and consent of instructor. Exploration of the basic elements contributing to effective helping skills. Course assignments include keeping a journal, writing papers, and a final exam. Readings, discussion, and guided experiences will be used to instill active listening and communication skills. Ethics of helping relationships will be emphasized.

200(2200) Drugs and Behavior (3) Prerequisites: Psych 3(1003) and three other hours in psychology or biology. The course is designed to provide an introduction to the relationship between drugs and behavior. The emphasis will be on psychoactive drugs, alcohol, nicotine, as well as drug-like substances produced naturally in the body.

201(2201) Psychological Statistics (4) (With Laboratory) Prerequisites: Psych 3(1003) and satisfaction of the university's mathematical skills requirement. Statistical methods in psychological measurement and analysis of psychological data. Frequency distribution analysis, sampling, test of significance, and correlation methods.

211(2211) Physiological Psychology (3) Prerequisites: Psych 3(1003) or equivalent and Biology 1(1012). A survey of the major areas of physiological psychology with an emphasis on their historical development.

212(2212) Principles of Learning (3) Prerequisite: Psych 3(1003). A consideration of critical findings in learning.

216(2216) Personality Theory (3) Prerequisite: Six hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems.

219(2219) Research Methods (3) (With laboratory.) Prerequisite: Psych 201(2201). Research methods and analysis techniques used in psychological inquiry. Special emphasis placed on the logic of research design. Includes laboratory study of, and analysis of, selected methods.

222(2222) Group Processes in Organizations (3) Prerequisite: Psych 3(1003) or BA 210(3600). Topics include theory, research, and practice in coordination, conflict, and decision making in groups and organizations, as well as the role of influence, power, and leadership effectiveness in understanding interpersonal and group relations.

225(2225) Behavior Modification (3) Prerequisite: Nine hours of psychology or consent of instructor. Methods, applications, and ethics of the use of behavior theory (primarily Skinner's operant conditioning) to the control of human behavior in a variety of settings including mental institutions, grade schools, universities, individual treatment, and communal living.

230(2230) Psychology of Women (3) Prerequisite: Psych 3(1003). Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women.
232(2232) Psychology of Victims (3)  
Prerequisite: Psych 3(1003). A review of the effects of crime, violence, natural disasters, and other traumas on psychological functioning with attention to the relationship between gender and victimization. Prevention and therapy techniques will also be discussed.

235(4235) Community Psychology (3)  
Prerequisite: Psych 3(1003). The analysis of psychological problems in terms of the social and situational forces that produce them. Community psychology analyzes the situational problems in living. Epidemiology of mental illness; group, family, and crisis intervention; mental health-care delivery; program evaluation and demonstration project research; role of psychologist as consultant and change agent; and utilization of nonprofessional manpower.

245(2245) Abnormal Psychology (3)  
Prerequisite: Psych 3(1003). Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders.

256(2256) Environmental Psychology (3)  
Prerequisite: Psych 160(2160) or Sociology 160(2160). Analysis of environmental influences on behavior and man's influence, in turn, on the environment. Topics will include a consideration of both individual processes relating to the environment (such as the perception, evaluation, and adaptation to the environment) and social processes relating to the environment (such as privacy, territoriality, and crowding).

268(1268) Human Growth and Behavior (3) [SS]  
Prerequisite: Psych 3(1003). A survey course, designed for non-majors, of development over the lifespan, with an emphasis on the developmental tasks and hazards of each age period. Majors in psychology and students planning to pursue a career in psychology research, teaching, or practice are strongly encouraged to take Psychology 270(2270) and/or Psychology 272(2272) instead of this course.

270(2270) Developmental Psychology: Infancy, Childhood & Adolescence (3)  
Prerequisite: Psych 3(1003). The theory and research surrounding cognitive, social, emotional, and physical development from conception through adolescence. Intended for students with career interests in the study, education, and/or treatment of children.

272(2272) Developmental Psychology: Adulthood and Aging (3)  
(Same as Gerontology 272(4280).) Prerequisite: Psych 3(1003). Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

295(3295) Selected Projects in Field Placement (3)  
Prerequisites: Junior standing, fifteen hours of psychology, and departmental approval. Selected options in field work placement experiences in various local agencies with training and supervision by faculty. May be repeated once for credit.

300(4300) Neuropharmacology and Behavior (3)  
Prerequisites: Psych 200(2200) plus 6 additional hours of psychology. The course is designed for advanced undergraduate students interested in a career in psychopharmacology or related fields in the health sciences. Emphasis will be on (1) underlying neural processes, (2) traditional laboratory methods as they have been adapted to the study of drugs, and (3) the unique contributions made by psychopharmacologists to both areas.

301(4301) Advanced Statistics and Experimental Design (3)  
Prerequisites: Twelve hours of psychology; including Psych 201(2201). Statistical methods which are particularly useful in psychological research and the design of experiments appropriate to these methods.

302(3302) Computers in Psychology (3)  
Prerequisites: Nine hours of psychology including Psych 201(2201) and junior or senior standing. The course is organized around computer applications in the behavioral sciences for the Macintosh machine. The goals for the course include familiarization with (1) MAC environment to prepare the student for the explosion of computer applications now and in the future, (2) the hardware and software products available for the working psychologist, and (3) the software programs of choice in the field through hands-on, individual use of the MAC. Some modest level of computer (MAC, PC, or mainframe) experience is recommended.

305(4305) Cognitive Development (3)  
Prerequisites: Junior standing and Psych 270(2270), or consent of instructor. Data and theory concerned with how children's thinking changes over time. Discussion will include domain-general versus domain-specific theories, social and cultural influences on cognition, gains in memory, attention, problem solving, and metacognition, conceptual development, children's naive theories, schooling, and various definitions and measures of intelligence.
306(4306) Social Development (3)
Prerequisites: Junior standing and Psych 270(2270), or consent of instructor. Data and theory concerned with social behavior in infants, preschoolers, and school-aged children. Discussion will include emotional regulation, measurement and nature of temperament, formation and maintenance of attachment relationships, sex-role development, theories of aggression and the effects of socializing agents such as family, peers, media, and culture on development.

307(4307) Psychology of Oppression (3)
Prerequisite: Nine (9) hours of psychology. Surveys the concept of oppression and psychology's contribution to an understanding of this human reality. Definitions and the assumptions, liabilities, and contributions of specific theories of oppression are considered. Finally, the course examines the psychological and mental health consequences of the individual's experience of oppression.

308(4308) African American Psychology (3)
Prerequisites: 9 hours of Psychology or 6 hours of Black Studies minor, or consent of instructor. Provides an overview of the emergence of contemporary African American Psychology. It explores the implications of a psychological perspective specific to African Americans. Traditional research theories are explored from a historical perspective. African American identity, socialization, personality, cognitive development, and mental health are discussed. Contemporary issues which impact African American behaviors and attitudes are also addressed.

310(4310) Motivation Theory (3)
Prerequisites: Junior standing and twelve hours of Psychology, or consent of instructor. Survey of current theoretical material in the area of motivation.

311(4311) Psychology of Nonverbal Behavior (3)
Prerequisite: Psych 160(2160) or Sociology 160(2160). Psychological perspective on the role of nonverbal behavior in social settings. Primary concerns of the course will include an analysis of a) functions of nonverbal behavior (e.g., communication, intimacy exchange, control), b) factors influencing nonverbal expression (e.g., culture, personality, relationships), and c) various theoretical views on nonverbal behavior and communication. Applications to various problems and settings in everyday life will also be pursued.

312(4312) Social Cognition (3)
Prerequisites: Psych 160(2160) or Sociology 160(2160). Research and theory on the role of cognitive processes in social behavior. Topics include attitudes and attitude change, social inference, schemas, and cognitive links to behavior and affect.

314(4314) Physiological Psychology (3)
(With laboratory.) Prerequisites: Psych 219(2219), Biology 1(1012). The biological and physiological correlates of behavior. Special emphasis placed on the neural and endocrine systems.

317(3317) Social Psychology of Conflict and Negotiation (3)
(Same as Sociology 317(3317).) Prerequisite: nine hours of psychology or nine (9) hours of sociology, including Psych 160(2160) or Soc 160(2160). The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

318(3318) Industrial and Organizational Psychology (3)
(Same as BA 318(3623).) Prerequisites: Psychology 201(2201) or BA 131 & 210(3600). This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance appraisal, training, leadership, motivation, job satisfaction, and organizational design.

320(3320) Personnel Assessment (3)
Prerequisite: Psych 318(3318) or BA 309(3621). This course will provide an in-depth study of several topics in the area of personnel psychology. Consideration will be given to issues such as assessment centers, employment interviewing, personnel appraisal, employment test validity, and legal issues relevant to personnel assessment.

340(3340) Clinical Problems of Childhood (3)
Prerequisites: A total of twelve hours of psychology including Psych 3(1003) and Psych 270(2270). This course will address the clinical disorders and difficulties of children and the treatment of these disorders. Topics that will be addressed include autism, childhood schizophrenia, behavior disorders, drug abuse, euresis, encopresis, and childhood co-compulsive and phobic reactions. Treatments designed for specific use with children, including behavioral, drug, and community mental health approaches will be addressed.

345(3345) Lesbian Psychology (3)
Prerequisites: Junior standing, 9 hours of psychology or Women's Studies, or consent of instructor. Explores psychological, social, cultural, and historical aspects of lesbianism. Topics include development of lesbian identity historically and individually, causes of sexual orientation, coming out, relationships and friendship, sexuality, roles, prejudice and discrimination, race and class, legal and economic issues, politics and feminism, health, and community.
346(3346) Introduction to Clinical Psychology (3)
Prerequisites: Nine hours of psychology, including Psych 216(2216) or Psych 245(2245). A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment.

349(4349) Human Learning and Memory (3)
Prerequisites: Nine hours of psychology or consent of instructor. A survey of contemporary research, theory, and facts pertaining to the acquisition, retention, and forgetting of information.

356(4356) Thinking and Cognition (3)
Prerequisites: Nine hours of psychology or consent of instructor. An introduction to modern analytical approaches to the psychology of thinking: problem solving, reasoning, categorizing, judgment, attention, and consciousness. Particular attention is paid to the mental structures and operations involved in the encoding, abstraction, representation, transformation, and retrieval of knowledge.

357(4357) Psychology of Learning (3)
(With laboratory.) Prerequisite: Psych 219(2219). Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected problems.

361(4361) History and Systems of Psychology (3)
Prerequisites: At least fifteen hours of psychology. The course should be taken no sooner than the winter term of the junior year. Historical antecedents of contemporary psychology, including a survey of systems and schools of psychology.

365(4365) Psychological Tests and Measurements (3)
Prerequisites: Psych 201(2201) and Psych 219(2219), or consent of instructor. Survey of psychological testing and principles of test construction and evaluation. Laboratory experience in construction, administration, and interpretation of selected tests.

373(4373) Psychology of Aging (3)
(Same as Gerontology 373(4373).) Prerequisite: Nine hours of psychology or consent of instructor. This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.

374(4374) Introduction to Clinical Neuropsychology (3)
Prerequisite: Nine hours of psychology. A survey of neuropsychological findings concerning relationships between brain and behavior. Topics will include brain function, neuroanatomy, neurological syndromes, and methods of neuropsychological assessment.

375(4375) The Social Psychology of Disabilities (3)
Prerequisite: Sociology 160(2160) or Psych 160(2160) or consent of instructor. (Same as Sociology 375(4375)) A

376(4376) Mental Health and Aging (3)
Prerequisites: Psych 272(2272), Psych 373(4373), or graduate standing. (Same as SW 376(4376) and GER 376(4376).) (MSW students normally take all foundation courses prior to enrolling in this course). A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and on treatment approaches for elders.

380(4380) Psychology of Death, Dying, and End-of-Life Concerns (3)
Prerequisite: Nine hours of psychology. (Same as Gerontology 380(4380).) This course will address the psychological aspects of end-of-life issues, including death attitudes, funeral practices, ethics, grief theory, family communication practices, health care system approaches.

390(3390) Directed Studies (1-5)
Prerequisite: Consent of instructor. Directed reading and research. May be repeated for a maximum total of ten hours.

392(4392) Selected Topics in Psychology (1-3)
Prerequisites: Twelve hours of psychology and consent of instructor. A seminar of selected issues and methods in psychology. May be repeated once for credit.

398(4398) Child Maltreatment: A Multidisciplinary Approach (3)
(Same as SW 398(4398).) Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of psychology and social work are provided.

399(4399) Seminar: Child Sexual Abuse (1)
(Same as SW 399(4399)) Provides intensive study in interviewing, legal issues, assessment, medica issues, and therapeutic intervention in cases of child sexual abuse.

403(7403) Psychopathology (3)
Prerequisite: Admission to Clinical Psychology program or permission of the instructor. A critical examination of the clinical-experimental literature on psychopathology. Etiologies of cognitive/affective functions and dysfunctions are explored, and implications for therapeutic intervention are considered.
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College of Arts & Sciences
Department of Psychology

404(7404) Introduction to Clinical Assessment I (3)
Prerequisite: Admission to Clinical Psychology program. Fundamentals of clinical assessment with emphasis on interviewing and the measurement of cognitive functioning.

405(7405) Personality (3)
Prerequisite: Admission to Clinical Psychology program or permission of the instructor. Current theories and research in personality. Major psychodynamic, trait, phenomenological, cognitive, and social learning approaches are covered, with a focus on personality structure and individual differences, personality processes and dynamics, development, psychopathology, and change.

406(7406) Introduction to Clinical Assessment II (3)
Prerequisite: Psych 404(7404). Theory and techniques of personality assessment with emphasis on projective personality tests.

407(5407) Psychopharmacology (3)
Prerequisite: 12 units of graduate-level psychology courses and consent of instructor. An examination of the effects of drugs on the brain and on behavior. Primary emphasis is on those drugs used in the treatment of affective disorders, schizophrenia, and anxiety.

408(7408) Psychological Perspectives on Death and Dying (3)
Prerequisite: Graduate standing. Addresses a variety of end-of-life issues including death attitudes, funeral practices, ethics, grief theory, family communication patterns, and health care systems. Research findings and theoretical approaches will be emphasized.

410(7410) Women and Mental Health (3)
Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will focus on contemporary research on the psychology of women pertaining to mental health issues. Etiology and treatment of disorders disproportionately affecting women will be emphasized.

412(7412) Social Psychology (3)
Prerequisite: Admittance to psychology doctoral program or consent of instructor. A review of key areas in contemporary theory and research in social psychology.

418(7418) Seminar in Human Sexuality (3)
Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Review of theory and research in human sexuality from physiological, psychological, and social perspectives. Implications for the assessment and treatment of sexual dysfunction are considered.

419(7419) Existential Issues in Clinical Psychology (3)
Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will review existential thought in psychology and its application to understanding clinical problems and treatment. Particular attention will be given to how Psychotherapy can be understood within an existential framework that focuses on the issues of death, freedom, responsibility, and isolation.

421(7421) Quantitative Methods I (4)
(With laboratory.) A comprehensive study of the use of analysis of variance procedures in analyzing data. Topics include completely randomized designs, randomized blocks, factorial designs, and the analysis of covariance.

422(7422) Quantitative Methods II (4)
(With laboratory.) A comprehensive study of the use of multivariate statistics in data analysis. Topics include multiple regression, canonical correlation, factor analysis, discriminant analysis, and the multivariate analysis of variance.

429(7429) Psychometric Theory (3)
Prerequisite: Consent of instructor. A consideration of test reliability, validity, and construction from the standpoint of modern psychometric theory and a survey of unidimensional and multidimensional scaling procedures.

431(7431) Clinical Supervision (1-3)
Prerequisite: Admission to Clinical Psychology program. Supervised experience in clinical practice. May be repeated six times for credit.

432(7432) Mental Health Administration and Professional Issues I (3)
Prerequisites: Admittance to Clinical Psychology Program. Review of current issues in professional psychology.

434(7434) Seminar: Introduction to Psychotherapy (3)
Prerequisite: Admittance to Clinical Psychology program and Psych 406(7406). This course considers theories of personal change and their practical application in psychotherapy. Topics include the development of the therapist-client relationship, case management, process and outcome research, and ethical principles for the psychotherapist.

439(7439) Summer Supervision (1)
Prerequisite: Psych 431(7431). Supervision experience in clinical practice at all graduate year levels during the summer months. Can be repeated for credit.

440(7440) Principles of Family Therapy (3)
Prerequisite: Psych 434(7434). Survey of research and theory underlying models of family interaction. Practical application of specific techniques to the family system is emphasized.
441(7441) Seminar: Cognitive and Behavior Theories (3)
Prerequisite: Admission to Clinical Psychology program or permission of instructor. A course on cognitive and behavioral theories and their applications to clinical populations. Emphasis is on a critical review of research on cognitive and behavioral therapy procedures.

442(7442) Seminar: Cognitive and Behavior Therapy (3)
Prerequisites: Admittance to doctoral program in Clinical Psychology and Psych 441(7441). The practice of behavior therapy. Students will learn to implement behavioral assessment and therapy strategies in clinical settings.

444(6444) Clinical Geropsychology (3)
Prerequisite: Graduate Standing or consent of instructor. This course examines major predictors of Psychosocial functioning in older adults. The emphasis is on assessment and research methods appropriate to studying developmental issues in late life. Topics include interpersonal relationships, mental health, and a critique of interventions designed to increase life satisfaction.

448(6448) Multicultural Issues in Clinical Psychology (3)
Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. A survey of theoretical perspectives utilized in the treatment of various cultural groups. Their relationship to and implications for the treatment of members of various cultural groups will be explored. Strategies and ethical concerns in diagnosis, test interpretation, and treatment are considered.

449(7449) Research Methods in Applied Psychology (3)
Prerequisite: One graduate course in statistics. This course focuses on the basics of conducting research in applied psychology. Topics include: philosophy of science; reliability and validity; experimental, quasi-experimental, and nonexperimental designs; power; and meta-analysis.

450(7450) Clinical Internship I (1)
Prerequisite: Consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

451(7451) Clinical Internship II (1)
Prerequisites: Psych 450(7450) and consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

454(7454) Seminar: Personnel Psychology (3)
An analysis of theories and research in personnel and industrial psychology. Topics include testing, assessment centers, performance appraisal, and interviewing.

455(7455) Seminar: Organizational Psychology (3)
An analysis of theories and research in organizational psychology. Topics include theories of motivation, leadership, job design, group process decision making, organizational effectiveness, and the relation between organizations and their environment.

457(7457) Seminar: Special Topics in Industrial Psychology (3)
A seminar of selected issues and methods in personnel psychology.

458(7458) Seminar: Special Topics in Organizational Psychology (3)
A seminar of selected issues and methods in organizational psychology.

459(7459) Practicum in Industrial/Organizational Psychology (1-4)
Supervised experience in personnel or human resource management.

460(7460) Internship in Industrial/Organizational Psychology (1-4)
Prerequisite: Consent of adviser and admission to the graduate program in I/O Psychology. Supervised field experience in human resource management or organizational psychology areas following completion of at least two years of course work.

461(5461) Seminar: Learning (3)
A critical examination of contemporary problems in learning.

465(5465) Seminar: Physiological Psychology (3)
A critical examination of contemporary problems in physiological psychology.

466(6466) Seminar: Developmental Psychology (3)
A critical examination of contemporary problems in developmental psychology.

468(5468) Seminar: Cognitive Processes (3)
Prerequisite: Admittance to doctoral program in psychology or consent of instructor. A critical examination of contemporary problems in cognitive processes.

472(7472) Special Topics in Psychology (3)
A seminar of selected issues and methods in psychology.

474(7474) Clinical Research in Applied Settings (3)
Prerequisite: Psychology 421(7421) and 422(7422). This course provides information on the design and implementation of research in applied settings (e.g., human service agencies). Topics include program evaluation, consultation models, risk factor analysis, presentation and health promotion, and quality control.
475(5475) Introduction to Evaluation Research Methods (3)
(Same as Sociology 475(5475), Public Policy Administration 475(6750), and CCJ 475(5475).)
Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

476(7476) Seminar in Clinical Child Psychology (3)
Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Introduction to principles, theory, and methods of study in the field of clinical child psychology. Emotional and behavioral dysfunctions are considered from developmental and socialization perspectives.

477(7477) Principles of Child Psychotherapy (3)
Prerequisites: Psych 434(7434) and 476(7476). The course will focus on treatments for children with clinical problems. Play therapy, family therapy, and behavioral therapy techniques will be reviewed. Special attention will be given to differentiating when to use each modality, as well as how they can be effectively combined.

478(7478) Directed Research in Industrial/Organizational Psychology (1-4)
Independent study of an issue in industrial/organizational psychology through the application of research techniques.

479(7479) Directed Readings in Industrial/Organizational Psychology (1-4)
Independent literature review of a topic in industrial/organizational psychology.

480 Research Methods in Clinical Psychology (3)
Prerequisite: Psychology 421(7421) or equivalent. An overview of research methods that are appropriate for clinical and other nonlaboratory settings.

482(7482) Ethics for Psychologists (1)
Prerequisite: Admittance to doctoral program in Clinical Psychology. A study of ethical standards as they relate to teaching, research, and professional practice.

483(7483) Directed Research (1-10)

484(7484) Directed Readings (1-10)

485(7485) Research Team I (2)
Prerequisite: Admittance to doctoral program in Clinical Psychology. Group supervision of beginning research leading to the Independent Research Project.

486(7486) Research Team II (1)
Prerequisite: Completion of Independent Research Project or Third Year standing in doctoral program in Clinical Psychology. Group supervision of advanced research leading to the dissertation proposal.

491(7491) M.A. Thesis Research (1-10)

492(7492) Ph.D. Thesis Research (1-10)

494(7494) Integrative Research Seminar in Gerontology (3)
(Same as Gerontology 494(6494), Prerequisite: A graduate level research methods course (e.g., PPA 401(6010)) This seminar requires students to critically examine research in gerontology in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation; and qualitative methods.
Department of Social Work

Faculty

Lois Pierce, Professor*, Chairperson
Ph.D., Washington University
Uma Segal, Professor*
Ph.D., Washington University
Norman Flax, Associate Professor Emeritus*
Ph.D., Saint Louis University
Joan Hashimi, Associate Professor Emeritus*,
Ph.D., Washington University
Margaret Sherraden, Associate Professor*
Ph.D., Washington University
John McClusky, Visiting Associate Professor
Ph.D., University of California-Berkley
Sharon Johnson, Assistant Professor
Ph.D., Washington University
Lisa Nower, Assistant Professor
Ph.D., Washington University
Cynthia Sanders, Assistant Professor
Ph.D., Washington University
Patricia Rosenthal, Lecturer
M.S.W., Washington University
Beverly Sporleder, Lecturer
M.S.W., Washington University
William Rainford, Lecturer
Ph.D., University of California-Berkley

* members of Graduate Faculty

Social work faculty members are committed to excellence in teaching and scholarly research in a wide range of specialties. These include child welfare, gerontology, community organization, addictions, and social service policy. Faculty also serve on the executive and advisory boards of many area social service agencies.

General Information

Degrees and Areas of Concentration The Department of Social Work offers courses leading to a bachelor of social work degree (B.S.W.), a master of social work (M.S.W.), and a minor in social work. The B.S.W. program is fully accredited, and the M.S.W. is in the last phase of accreditation (candidacy) by the Council on Social Work Education. The programs stress the critical, empirical, and applied aspects of social work, incorporating a liberal arts perspective throughout the curriculum. There is a strong accent on community and agency field work as an integral part of the program. Professional social work education enables students to integrate the knowledge, values and skills of the profession into competent practice.

Undergraduate social work majors and Master's students should obtain a copy of the Student Handbook (also available on the social work department's Web page http://www.umsl.edu--:-socialwk). BSW students must see a social work adviser for advisement each semester. Students in the B.S.W. or the M.S.W. program must set up an appointment with the practicum office one semester prior to enrolling in the practicum and attend a series of prepracticum orientation sessions.

Undergraduate Studies

General Education Requirements

Majors must satisfy the university and college general education requirements, except that proficiency in a foreign language is recommended but not required.

Courses required for the B.S.W. degree may not be taken on a satisfactory/unsatisfactory basis except Social Work 320(4800) and Social Work 321(4850).

Admission Requirements

Students entering UM-St. Louis as freshman and as transfer students should indicate a pre-social work major. Students must apply to the program concurrent with SW 210(3100). Admission to the program is conditional upon the successful completion of all necessary requirements.

Requirements for Admission to the Social Work program:

• Junior standing
• Submission of:
• Application for admission to social work program.
• Transcript of all university work.
• Two letters of reference: one from a college or university professor and one other, preferably from a work or volunteer experience supervisor.
• Completion of Social Work 100(1100), 150(1200), and 151(1201) or their equivalents or completion of an A.A. in Human Services.
• Satisfactory completion of all courses listed as prerequisites for Social Work 210(3100), 280(4200), and 285(3400).
• Applicants may be asked to meet with the social work admissions committee.

Undergraduate Studies

Bachelor of Social Work

Students must have a minimum GPA of 2.5 in social work and related-area requirement courses to enter field practicum. Candidates for this degree program must complete the core requirements including the following social work courses:

100 (1100), Social Work and Social Problems
150 (1200), Social Work as a Social Institution
151 (1201), Social Welfare as a Social Institution Laboratory
210 (3100), Introduction to Interventive Strategies
280 (4200), Human Behavior in the Social Environment
285 (3400), Social Issues and Social Policy Development
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300 (3200), Interventive Strategies for Social Work with Individuals, Families, and Groups
305 (3300), Interventive Strategies for Social Work with Organizations and Communities
315 (4100), Diversity and Social Justice
320 (4800), and 321 (4850) Supervised Field Experience in Social Work I and II
320A (4801) and 321A (4850), Integrative Field Experience Seminar I and II

A minimum of 37 hours and a maximum of 50 hours may be taken in social work. A minimum of 30 hours is required in related area departments.

Evaluation of social work transfer credits will be done by a social work adviser on an individual basis.

Related Area Requirements
The following courses, or their alternatives, are required:

Biology
One course from the following:
110 (1102), Human Biology
113 (1131), Human Physiology and Anatomy I
114 (1141), Human Physiology and Anatomy II
115, Human Heredity and Evolution
120 (1202), Environmental Biology

Econ 40 (1000), Introduction to the American Economy

Psych 110 (1100), Introduction to American Politics

Psych 3 (1003), General Psychology

Sociology
10 (1010), Introduction to Sociology
160 (2160), Social Psychology
220 (3220), Sociological Statistics

Either
Sociology 230 (3230), Research Methods and 231 (3231), Research Methods Lab or Social Work 330 (4400), Research Design in Social Work

At least 9 additional hours must be taken in social work, sociology, political science, psychology, women’s and gender studies, anthropology, criminology and criminal justice, or economics at the 100 level or above. Hours taken in social work will apply toward the maximum of 50 hours that may be taken in social work courses. The social work department may require students to pass a placement test to enroll in the next level course, provided this test or its equivalent is administered to all students seeking to enroll in that course.

Social work majors must have a cumulative grade point average of 2.5 or better in all course work specifically required for the major, with satisfactory grades in practicum.

Note Taking anthropology, biological sciences, economics, and Spanish courses is strongly recommended by graduate social work schools.

Requirements for the Minor in Social Work
Candidates must complete the following social work courses:
100 (1100), Social Work and Social Problems
150 (1200), Social Welfare as a Social Institution
210 (3100), Interventive Strategies in Social Work Practice
285 (3400), Social Issues and Social Policy Development and one additional social work course at the 200 level or above.

Graduate Studies

Master of Social Work

Admission Requirements
Admission to the M.S.W. Program requires admission to the University of Missouri-St. Louis Graduate School and acceptance by the Department of Social Work. Applicants to the program must meet the following requirements to be considered for admission:

- Completion of a bachelor's degree from a college or university accredited by a recognized regional accrediting organization
- Completion of a liberal arts education including courses in the humanities, the social and behavioral sciences, and the physical sciences, including a course in human biology.
- Attainment of a cumulative grade point average of at least 2.75 on a 4.0 scale for all undergraduate course work and attainment of a grade point average of 2.75 on a 4.0 scale in the major field.
- Submission of the following documents by the admission deadline:
  1. Three letters of reference.
  2. A completed application to the UM-St. Louis Graduate School and a completed M.S.W. supplemental application
  3. Three written essays.
  4. Official transcripts from all colleges and universities attended.
  5. Applicable fees.

Application Deadline
The deadline for application to the MSW program is March 15 for admission in the following fall semester.

Admissions to the Advanced Standing Program
Applicants with a B.S.W., B.A.S.W., or B.S.S.W., from an accredited social work program may be given up to 24 credit hours of advanced standing for foundation social work courses. Admissions to the advanced standing program is available to applicants who meet the general admission requirements and who: (1) have earned a bachelor's degree in social work accredited by the Council on Social Work Education within five years of applying to the M.S.W. Program, and (2) have earned a grade point average of at least 3.0 on a 4.0 scale in the social work
foundation curriculum, and no less than a B in all courses that are applicable.

Course Waivers
A student who does not have a bachelor's degree in social work but who can document successful completion (with at least a B) of foundation courses from an accredited B.S.W. program within the last five years will be given course waivers and be allowed to take electives instead of these courses.

Students from nonaccredited B.S.W. programs or students who have taken comparable course work in other undergraduate programs may take place-out examinations for select foundation courses; waivers will be given if students successfully pass place-out examinations. The waiver does not provide graduate credit; it is a mechanism for allowing elective courses to be substituted for required foundation courses.

Academic credit cannot be given for life experience and previous work experience, in whole or in part, in lieu of field practicum or foundation year courses.

Degree Requirements
The M.S.W. is a two-year program comprising a foundation year and a concentration year. All students are required to take the foundation year courses. These provide a common base of knowledge across all practice settings and populations. Beyond the general requirements of the Graduate School, the department requires a minimum of 60 semester hours of course work, of which 45 must be at the 400 level and 45 must be in social work or crosslisted with social work, including the following foundation courses:

315(4100), Diversity and Social Justice
410(5200), Social Policy and Social Services
418(4200), Foundations of Human Behavior in the Social Environment
430(5100), Generalist Social Work Practice
431(4250), Social Work and Human Service Organizations
432(5300), Community Practice and Social Change
440(4400), Research Methods and Analysis I
449(5400), Research Methods and Analysis II
489(5801), Graduate Field Practicum Seminar
490(5800), Graduate Field Practicum I

Upon completion of the 30 credits of foundation year requirements, students move into a year of specialization, called the concentration. The concentration year requires 30 hours of course work that includes 9 hours of elective graduate-level courses approved by the adviser. Students plan their degree program to reflect their career interests in the following concentration areas:

Family Practice
Organizations and Community Development

To remain in good standing, students must maintain a cumulative GPA of 3.0 or better.
Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

100(1100), 150(1200), 210 (3100), 28 (4200), 285(3400), 290(3900), 312(4601), 315 (4100), 316, 322(3602), 350(4900), 376(5600), 390 (4950)

100(1100) Social Work and Social Problems (3)
Prerequisite: Sociology 10 (1010) or Psychology 3 (1003). Examination of the network of social programs and services developed in response to social problems in modern urban communities and the various roles and functions performed by helping professions. Introduction to basic values, skills, and training involved in a helping relationship, as well as characteristics of clients seeking help and professionals engaged in the helping process.

150(1200) Social Welfare as a Social Institution (3)
Prerequisite: Social Work 100 (1100) or consent of instructor. A study of the: 1) development of social welfare services and the philosophy underlying the present practices and systems; 2) present social welfare programs with particular emphasis given to public income-maintenance provisions; 3) special welfare needs of blacks, aged, women, Hispanics, and Native Americans; and 4) the development of social work as a profession. This course may be taken by non-social work majors.

151(1201) Social Welfare as a Social Institution Laboratory (1)
Prerequisites: Simultaneous with Social Work 150 (1200). The lab session will be used for field trips to social agencies. This course is required for all Social Work majors.

210(3100) Introduction to Interventive Strategies for Social Work Practice (3)
Prerequisites: Social Work 150 (1200), Sociology 10 (1010) and Psychology 03 (1003), or permission of instructor. A presentation of basic knowledge, skills, and theory used for entry-level professional practice, such as problem assessment, interviewing skills, crisis intervention, and referral procedures. The course objectives also will be to teach students how to help clients negotiate systems effectively, and to use resources, services, and opportunities.

280(4200) Human Behavior in the Social Environment (3)
Prerequisite: Biology 1 (1012) and Sociology 160 (2160) or Psych 160 (2160) or permission of instructor. This course will focus on the normative stages in the life span, specifically how human development is affected by the physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social, and community systems.

285(3400) Social Issues and Social Policy Development (3)
Prerequisites: Social Work 150 (1200), PolSci 11 (1100), and Econ 40 (1000). The identification of issues concerning governmental provisions to meet contemporary social needs, with analysis of the principles and values underlying alternative solutions. A study of the processes by which citizen opinions and public policies evolve and are implemented in areas such as income maintenance, crime and delinquency, employment, family and child welfare, and public mental health.

290(3900) Selected Topics in Social Work Practice (3)
Prerequisite: Social Work 210 (3100) or Social Work 285(3400), or consent of instructor. A course examining special topics in social work practice. Relative theories, strategies, and skills will be presented for topics selected. Course may be taken more than once for credit as different topics are offered.

300(3200) Interventive Strategies for Social Work with Individuals, Families, and Groups (3)
Prerequisites: Social Work 210 (3100), and Social Work 280 (4200). This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in Social Work 210 (3100). It builds on the generalized helping model, incorporating specialized skills for working with specific groups of clients (e.g., children, aged, mentally ill, and physically handicapped), with families and small groups.

305(3300) Interventive Strategies for Social Work with Organizations and Communities (3)
Prerequisites: Social Work 285(3400) taken prior to or concurrently, senior standing. Continuation of basic practice skills with emphasis given to analysis and intervention at the organization and community levels. Includes assessment of available services, organization of client groups, efforts to modify resources for a client group unable to intervene effectively on its own behalf. Also emphasis on helping the practitioner evaluate the impact of intervention.
310(3601) Abused and Neglected Children (3)
Prerequisite: Social Work 280 (4200) or equivalent. This course explores the major concepts necessary for understanding abused and neglected children and their families. Emphasis is placed on (1) defining the problem, including societal stresses which contribute to the abuse and neglect; (2) examining existing practice methods; and (3) understanding the role of the social worker on interdisciplinary teams.

312(4601) Women's Social Issues (3)
Prerequisite: Social Work 280 (4200) or equivalent. This course will help students become more sensitive to the social and welfare concerns of women. The topics include work, education, family responsibilities, violence against women, and special health and mental health service needs. Emphasis will be placed on understanding how social action can be used to bring about positive change.

315(4100) Diversity and Social Justice (3)
(Same as Sociology 315 (4100). Prerequisite: Sociology 10 (1010) or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

320(4800) Supervised Field Experience in Social Work I (4)
Prerequisites: Social Work 300 (3200) must be taken prior to or concurrently, Social Work 320A (4801) must be taken concurrently, consent of instructor. This course provides students practice experience in social service agencies. Students work at the agencies approximately 20 hours per week. The purpose of this experience is to familiarize students with agency operations. Selection of the agency is based on student education needs.

320A(4801) Integrative Field Experience Seminar I (2)
Prerequisites: Consent of instructor and concurrent registration in Social Work 320 (4800). This seminar provides an opportunity for students to integrate previous course work with their experience in social work agencies. Classroom discussion will emphasize direct practice issues.

321(4850) Supervised Field Experience in Social Work II (4)
Prerequisites: Social Work 320 (4800), Social Work 320A (4801), and consent of instructor. This is a continuation of agency practice experience. Students work at the agency approximately 20 hours per week and may continue at the same agency as Social Work 320A (4801), or change agencies with the consent of the instructor.

321A(4851) Integrative Field Experience Seminar II (2)
Prerequisites: Consent of instructor and concurrent registration in Social Work 321(4850). This seminar is a continuation of Social Work 320A (4801). Classroom discussion will emphasize administration and community organization issues.

322(3602) Child Welfare Practicum Seminar (3)
Prerequisites: Social Work 320 (4800), and consent of instructor. This seminar allows students to integrate previous course work with their experience in child welfare agencies. Classroom discussion will emphasize core competencies needed for child welfare practice.

330(4400) Research Design in Social Work (3)
Prerequisites: Satisfaction of Math Proficiency requirement and Sociology 220 (3220). Students explore research concepts and procedures (hypothesis testing, sampling, measurement, and design) emphasizing issues in social work research. Students learn to collect, analyze and present data.

350(4900) Special Study (1-10)
Prerequisite: Consent of instructor. Independent study through advanced readings in method and philosophy on a topic of particular interest, or field research in an agency.

376(5600) Mental Health and Aging (3)
Prerequisites: Psychology 272 (2272), 373 (4373), or graduate student status. (Same as Psychology 376 (4376) and Gerontology 376 (4376). (MSW students normally take all foundation courses prior to enrolling in this course.) A survey of recent theory and research in mental health issues for older populations. The primary focus is on major Psychological disorders prevalent among the elderly and in treatment approaches for elders.

381A(5610) Mechanisms of Aging I: The Aging Body (1)
Prerequisites: Bio 1 or Bio 110 (1102) or equivalent. (Same as GER 300A (5610). (MSW students normally take all foundation courses prior to enrolling in this course). Introduces students with a social sciences/humanities background to the normal changes in the biology and chemistry of the aging human body.

381B(5611) Mechanisms of Aging II: The Aging Brain (1)
Prerequisites: GER 300A (5610), or SW 381A (5610), equivalent, or consent of instructor. (Same as GER 300A (5611) (MSW students normally take all foundation courses prior to enrolling in this course). Provides students with a social sciences/humanities background a basic introduction to the biology and chemistry of the aging human brain and nervous system.
381C(S612) Mechanisms of Aging III: Diseases of Aging (1)
Prerequisites: GER 300A (5610) and 300A (5611) or SW 381C (5611) and 381B (5611) or equivalents or consent of instructor. (Same as GER 300C (5612).) (MSW students normally take all foundation courses prior to enrolling in this course.) Provides students with a social sciences/humanities background with information on how diseases associated with aging exacerbate the effects of aging on the human body and mind.

382(S620) Theory and Practice with Older Adults (3)
(MSW students normally take all foundation courses prior to enrolling in this course.) Examines theory and empirically-based assessment and intervention models for work with the elderly. It includes the life circumstances of older adults and how that differs from younger adult populations; how ethnicity, gender, social class, and sexual orientation interact with age and create special intervention issues; discussion of ethical and value issues (e.g., client autonomy, rationing of health care); examination of family and community resources in providing care, and interventions with physically or mentally disabled elders and elders in residential settings.

390(4950) Seminar in Social Work Issues (1-3)
Prerequisite: Consent of instructor. A variable-credit course examining current and future considerations in designing and implementing social work service and delivery arrangements. Issues will be selected according to interests of the class. Course may be taken more than once for credit as different topics are offered.

391A(4911) Management Issues in Nonprofit Organizations: Staff Management Issues (1)
Prerequisite: Junior Standing. (Same as Political Science 391A (4911) and Public Policy Administration 391A (4911).) This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; legal issues that affect these processes.

391B(4912) Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)
Prerequisite: Junior Standing. (Same as Political Science 391B and Public Policy Administration 391B (4912).) This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

391C(4913) Management Issues in Nonprofit Organizations: Financial Issues (1)
Prerequisite: Junior Standing. (Same as Political Science 391C (4913) and Public Policy Administration 391C (4913).) This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

394(4940) Leadership and Management in Nonprofit Organizations (3)
Prerequisite: Junior standing. (Same as PPA 394 (4940), Pol Sci 394 (4940), Soc 308 (4940).) Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

396(4960) American Philanthropy and Nonprofit Resources Development (3)
Prerequisite: Junior standing or consent of instructor. (Same as Political Science 396 (4960) and Public Policy Administration 396 (4960).) This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

398(4398) Child Maltreatment: A Multidisciplinary Approach (3)
(Same as Psy 398(4398).) Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of Psychology and social work are provided.

399(4399) Seminar: Child Sexual Abuse (1)
(Same as Psy 399(4399).) Provides intensive study in interviewing, legal issues, assessment, medical issues, and therapeutic intervention in cases of child sexual abuse.
410(5200) Social Policy and Social Services (3)
Prerequisite: Social Work 285(3400) or PolSci 242(2420)
or PolSci 246(3460) or equivalent or admission to the MSW program. Covers the history and development of social welfare policies, legislative processes, and existing social welfare programs. Examines frameworks for social policy analysis, analyzes how social and economic conditions impact the process of social policy development and implementation, and introduces policy practice in social work.

417(6417) Income & Pension Policy for the Aged (3)
Prerequisites: Graduate standing or consent of instructor. (Same as PPA 417(6417), GER 417(6417) and PolSci 417(6417). (MSW students normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

418(4200) Foundations of Human Behavior in the Social Environment (3)
Prerequisites: Social Work 280(4200) or equivalent or admission to the MSW program. Focuses on theoretical and empirical understanding of human behavior in the social environment using a life-span perspective. Introduces biological, behavioral, cognitive, and sociocultural theories of individuals, families, and small groups, and their implications for the professional social worker's understanding of socioeconomic status, gender, disability, ethnicity, race, and sexual orientation.

430(5100) Generalist Social Work Practice (3)
Prerequisite: Social Work 300(3200) or equivalent or admission to the MSW program. Using a problem-solving approach, students develop theoretical and empirical understanding and practical application of generalist social work methods. Students gain knowledge and skills that include interviewing, assessment, crisis and short-term intervention, contracting, resource development, and case documentation needed for competent direct practice with diverse populations.

431(4250) Social Work and Human Service Organizations (3)
Prerequisites: SW 280(4200) and 305(3300) or Psych 318(3318) or BusAdmin 311(3611) or equivalent or admission to the MSW program. Students develop theoretical and empirical understanding of groups and organizations, including concepts such as power and authority, structure, goals, membership, leadership, motivation, technology and organizational culture. Using organizations as settings for social work practice and as targets for change, students learn strategies and skills for assessment and intervention.

432(5300) Community Practice and Social Change (3)
Prerequisites: SW 305(3300) or Sociology 344(4344) or equivalent or admission to the MSW program. Focuses on economic, social, and political theory and research on communities and social change. Examines conceptual models of community practice within the generalist model and develops skills in organizing, advocacy, and planning.

435(5630) Diagnosis and Related Pharmacology for Social Work Practice (3)
Prerequisites: SW 430(5100) or equivalent or consent of instructor. Designed for social work students, course will provide overview of development and treatment of selected mental health disorders classified by the Diagnostic and Statistical Manual of Mental Disorders. In particular, course will examine, from a systems perspective, psychological and neuropsychological etiologies of mood, psychotic, personality, and other disorders and their preferred pharmacological treatment.

440(4400) Social Work Research Methods and Analysis I (3)
Prerequisites: Social Work 330(4400) or Sociology 230(3230) and 231(3231) or equivalent and Sociology 220(3220) or equivalent or admission to the MSW program. The first of a two-course sequence designed to provide students with the knowledge base and skills for using scientific method to advance social practice, knowledge and theory. Focuses on research methods at different levels (e.g., individual, group, organization, and community). Covers quantitative and qualitative methods, research design, sampling, measurement, use of results, impact of research, and ethical considerations.

443(6443) Health Care Policy (3)
Prerequisites: Graduate standing or consent of instructor. (Same as PolSci 443(6443), GER 443(6443) and PPA 443(6430). (MSW students will normally take the social policy foundation course prior to enrolling in this course.) Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444(5640) School Social Work (3)
Prerequisites: SW 430(5100) or equivalent or graduate standing and consent of instructor. Examines role of social worker in school settings and includes work with youth, families, and communities in relation to the child or adolescent's functioning in school.
449(5400) Social Work Research Methods and Analysis II (3)
Prerequisites: Social Work 440(4400) or equivalent. Advanced course, focusing on analysis of qualitative and quantitative data to advance social work practice, knowledge and theory. Students learn to use and interpret various statistical procedures for analyzing quantitative data, including bivariate and multivariate analysis, and content and statistical analysis for qualitative data. Students apply these analytic techniques to social work case material using computer software applications.

450(6100) Theory and Practice with Children and Youth (3)
Prerequisite: SW 430(5100) or equivalent or consent of instructor and graduate standing. Examines theory and empirically-based assessment and intervention models for work with children and adolescents: The effects of family, peers, and societal context (e.g., poverty, racism) will be stressed in understanding youth problems such as drug abuse, academic failure, delinquency, adolescent pregnancy, and gang participation. The course will emphasize a multi-disciplinary approach using inter-agency collaboration and negotiation skills.

451(6150) Theory and Practice with Families (3)
Prerequisites: SW 430(5100) or equivalent, graduate standing and departmental approval. Examines theoretical approaches to social work with families, including the impact of the social environment. Skills will include assessment, and multidisciplinary intervention with multi-problem families. Special emphasis will be given to poverty, chemical dependency, intra-familial violence, physical and mental illnesses, and working with family members of diverse cultures, socioeconomic backgrounds, races, sexual orientation, and ability. Values and ethics will be emphasized.

452(6200) Family Policy (3)
Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as PolSci 416(6416) and Soc 452(6200)). Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

455(6491) Strategic and Program Planning for Nonprofit Organizations (3)
Prerequisites: Graduate standing or consent of instructor. (Same as PolSci 491(6490) and PPA 455(6550)). Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

461 Human Services Leadership and Management (3)
Prerequisites: Graduate standing. Addresses leadership and management in public and nonprofit human service agencies, focusing on the role of the social work practitioner as administrator. Students will be introduced to theory and practice in human service organization and program planning, management, and development. Specific skill areas include strategic planning, team building and conflict management, fund development, leadership, information technologies, community relations, and evaluation in human service organizations. Attention will be given to social work values and ethics and effective practice with a diverse workforce and constituencies.

462(6250) Social and Economic Development Policy (3)
Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as PolSci 418(6418)). Examines major trends and alternatives in social and economic development policy and practice in state, national, and international perspectives. Students will develop skills in policy analysis and development.

469(6449) Human Resources in the Public Sector (3)
Prerequisites: PPA 460(6600) or consent of instructor. (Same as PolSci 449(6449) and PPA 449(6490)). Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

473(6400) Practice and Program Evaluation (3)
Prerequisites: SW 440(4400) and 449(5400) or equivalent or consent of instructor and graduate standing. Provides specialized knowledge in the use of qualitative and quantitative research skills to evaluate the effectiveness of social work practice. Topics will include single system design, group designs, and program evaluation. Students will design and conduct a research project associated with their advanced social work practicum. Results will be presented to the class and the agency. Value and ethical issues, particularly those relevant to client race and gender, will be emphasized as students develop and conduct their research.
489(5801) Foundation Field Practicum Seminar (2)
Prerequisite: Graduate standing and consent of instructor.
Integrates academic content from foundation course work and experiential learning in field placements. Goals are to conceptualize the problem solving process in field practice, synthesize theory into a social work approach that encourages creative use of self, and underscore ethics and service to diverse groups in practice.

490(5800) Graduate Field Practicum I (2-4)
Prerequisites: Graduate standing and consent of instructor.
Provides integrative field experience in generalist social work practice. May be taken for 2-4 hours' credit depending on time in agency during semester; 50 contact hours=1 credit hour. May be repeated once.

491(6800) Graduate Field Practicum II (2-6)
Prerequisites: SW 489(5801) and SW 490(5800). Provides integrative field experience in students' graduate social work practice concentration. May be taken for 2 to 6 hours' credit depending on time in agency during semester; 55 contact hours=1 credit hour. May be repeated once and/or taken concurrently with SW 492(6850).

492(6850) Graduate Field Practicum III (2-6)
Prerequisites: SW 491(6800). Provides advanced integrative field experience in students' graduate social work practice concentration. May be taken for 2 to 6 hours' credit depending on time in agency during semester; 55 contact hours=1 credit hour. May be repeated once and/or taken concurrently with SW 491(6800).

495(6900) Directed Study in Professional Social Work (1-10)
Prerequisites: Graduate standing and consent of instructor. Independent graduate-level study on a topic of particular interest through readings, reports, and field work under faculty supervision.

499(6950) Advanced Seminar in Professional Social Work (1-3)
Prerequisites: Graduate standing and consent of instructor. Focused study on selected issues, concepts, and methods of professional social work practice. May be taken more than once for credit provided the course topic is different each time.
Department of Sociology

Faculty

Nancy Shields, Associate Professor*, Chairperson
Ph.D., Southern Illinois University-Carbondale
George J. McCall, Professor*
Ph.D., Harvard University
Herman W Smith, Professor*
Ph.D., Northwestern University
Harry H. Bash, Associate Professor Emeritus*
Ph.D., University of Pennsylvania
Sarah L. Boggs, Associate Professor Emerita*
Ph.D., Washington University
Chikako Usui, Associate Professor*
Ph.D., Stanford University
Teresa J. Guess, Assistant Professor
Ph.D., University of Missouri-Columbia
Susan Tuteur, Adjunct Assistant Professor
Ph.D., University of Chicago
Robert Keel, Lecturer
M.A., Washington University
Adinah Raskas, Lecturer
M.A., Saint Louis University
*members of Graduate Faculty

The faculty prides itself on its commitment to high standards of teaching and sound scholarly research. Systematic course evaluations by students each semester are taken seriously, and individual faculty have been singled out as nominees and recipients of university Excellence in Teaching awards. The ongoing scholarly research of the faculty is reflected in the department's upper-level and graduate courses, as well as in the numerous publication credits of faculty in journals and books or presentations at national and international meetings. Information on current academic activities of the faculty is posted on the departmental Web page http://www.umsl.edu/sociolog.

General Information

Degrees and Areas of Concentration

The sociology department offers courses leading to the B.A. in sociology and the B.S. in sociology; in cooperation with the College of Education, the B.A. in sociology with teacher certification; in cooperation with the College of Business Administration, the B.A. in sociology with a business option; and cooperative minor or certificate programs in American studies, black studies, legal studies, urban studies, religious studies, women's and gender studies, and international studies.

Students completing the B.A. or B.S. degree in sociology are well-prepared for graduate study in sociology or careers in industry, health and social services, and urban, intergroup, political, or community issues. Since the sociology department also offers work leading to the M.A. degree in sociology (see below), opportunities are available for graduate-level instruction to selected undergraduate students. The graduate emphasis areas include (1) demography and population; (2) social problems and social change; (3) social and family networks; and (4) applied analysis, measurement, and program evaluation.

In addition to a balanced program of basic undergraduate to advanced graduate courses, the department provides a range of opportunities for students to develop specialized research methods seminars, and internship placements are offered in support of this goal and are typically designed around the ongoing research interests of department faculty. The department provides students with opportunities for intensive direction and guidance from faculty. Students and faculty working in particular subject areas consult freely with members working in other areas. Research interests of sociology faculty extend beyond the department into a wide variety of joint projects with faculty in other departments and programs, including criminology and criminal justice, engineering, political science, trauma studies, women's and gender studies, gerontology, public policy research centers, and the Center for International Studies.

A minor in sociology at UM-St. Louis is available to students majoring in related areas.

Undergraduate Studies

General Education Requirements

Students must satisfy the university and college general education requirements. Courses in sociology may be used to meet the social science requirement. The foreign language requirement for the B.A. degree may be satisfied in any language. Not more than 12-15 hours of community college transfer credit may be applied toward the combined minimum of required credit hours for the B.A. (31 credit hours) or B.S. (37 credit hours) major. No course in which a grade below a C- is received will count toward satisfying the core requirement.

Satisfactory/Unsatisfactory Restrictions Sociology majors may not take courses counting toward their major requirements on a satisfactory/unsatisfactory basis.

Degree Requirements

Bachelor of Arts in Sociology

In addition to specific baccalaureate degree requirements of the College of Arts and Sciences, candidates must complete 31 hours of sociology course credit including the following required core courses:

10(1010), Introduction to Sociology
210(3210), Sociological Theory
220(3220), Sociological Statistics, or
Math 31(1310), Elementary Statistical Methods, or
Math 102(1102), Finite Mathematics I, or Math
105(1105), Basic Probability and Statistics
230(3230), Research Methods
231(3231), Laboratory in Research Methods

Note The core requirements should be completed as early as possible, preferably by the end of the junior year. Sociological Statistics is a prerequisite for research methods. Only 45 hours of sociology can be applied to the 120 hour total required for a degree from the University of Missouri-St. Louis.

For the B.A. in sociology candidates are required to take the core courses and at least 18 additional hours of sociology courses, selected according to career objectives, with at least six hours at the 300 level (no more than three hours of either Soc 350(4350), Special Study or Soc 385(4385), Internship in Sociology may be applied to this 300 level requirement). No more than three hours in sociology below the 100 level can count towards this 18-hour requirement. Applied training through one or more research courses may be used as part of the requirement for the major.

Bachelor of Science in Sociology
For the B.S. in Sociology, candidates are required to take the core courses and complete the following requirements.

1. Six credit hours from sociology research courses such as:
298(3298), Practicum in Field and Laboratory Research
304(4040), Survey Research Practicum
330(4330), Field Research in Crime and Deviance
331(4331), Qualitative Methods in Social Research
346(4646), Demographic Techniques
370(4370), Selected Topics in Techniques of Sociological Research

Courses in other departments may be applied to the required six hours of research courses with the written consent of the student's faculty advisor.

Some 300 level sociology courses can count as research courses with the written consent of the student’s faculty advisor and the instructor.

2. Six additional sociology courses (18 hours), chosen with the approval of the student's faculty advisor, are required for the B.S. degree in sociology, including a minimum of two courses (six hours) at the 300 level (no more than three hours of either Soc 350(4350), Special Study or Soc 385(4385), Internship in Sociology may be applied to the 300 level requirement). No more than three hours in sociology below the 100 level can count towards this 18-hour requirement.

Related Area Requirements:
Candidates for the B.S. in sociology also must complete five courses from at least four of the following nine areas: computer science, economics, mathematics, philosophy, political science, probability and statistics, psychology, public policy administration, and international studies. Specific course selections must be approved by a faculty advisor.

Combined Degree: Bachelor of Science in Civil Engineering and Bachelor of Science in Sociology

Students pursuing the combined degree are simultaneously enrolled in the College of Arts and Sciences and the Joint Undergraduate Engineering Program. They have an engineering faculty adviser as well as a faculty adviser in the Department of Sociology.

A program of 159 semester hours is required for the B.S. in civil engineering and the B.S. in sociology. Earned alone, the B.S. in engineering requires 137 semester hours. Because of the overlap in required courses for the two curricula, the combined degree program requires only 22 additional semester hours.

For additional information, see the section in this Bulletin labeled UM-St. Louis/Washington University Joint Undergraduate Engineering Program or contact: Associate Dean of the Joint Undergraduate Engineering Program, 228 Benton Hall, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121.

B.A. or B.S. in Sociology with Teacher Certification
Students must complete the B.A. or B.S. in sociology requirements, as well as the requirements for teacher certification. (See the College of Education section of this Bulletin.)

B.A. or B.S. in Sociology with an Interest in Business
The following courses are suggested for students seeking careers in sales, market research, and so forth. In addition to the B.A. or B.S. in sociology requirements, the following core courses are suggested:

Econ 51(1001), Principles of Microeconomics
Sociology 346(4646), Demographic Techniques
BA 140(2400), Fundamentals of Financial Accounting

Students may then choose to complete one of the following three sets of courses:

1) Marketing Management
206(3700), Basic Marketing
275(3740), Marketing Intelligence
363(3760), Industrial Marketing

2) Financial Management
204(3500), Financial Management
334(3520), Investments
Requirements for the Minor
Students must apply for the minor in sociology. Candidates must complete at least 15 hours of departmental course work in sociology, of which at least 9 must be completed at UM-St. Louis' department of sociology and must be beyond those applied to the candidate's major. At least 6 hours must be at the 300 level (no more than 3 hours of either Soc 350(4350), Special Study, or Soc 385(4385)). Internship may be applied to this 300 level requirement.

Candidates who anticipate that their background in sociology may play a substantial role in their career plans are strongly encouraged to take some or all of the core requirements.

Candidates must have a cumulative grade point average of 2.0 or better in all courses pertaining to the minor. Department courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Department Awards
The department offers several annual awards to outstanding students on the basis of merit.

The Ray Collins Alumni Award is given annually by the Sociology Alumni Association to the top graduating senior. The awardee is selected by the faculty on the basis of GPA, and the award consists of first-year membership dues in the Sociology Alumni Association and a cash award.

Honors Program Student Association Awards are given annually to exceptional students. The awards include student affiliate memberships in the Honors Program Student Association of the American Sociological Association to aid the establishment of a network of colleagues who are at similar points in their career development.

The Alumni Agent Scholarship and the Sociology Alumni Scholarship are given to deserving sociology majors annually. The awardees are selected by the faculty on the basis of merit.

A series of undergraduate awards are given to outstanding students. The Freshman Sociology Award is given to the outstanding freshman student in lower-division sociology course work; the Outstanding Junior Sociology Major Award is given to the outstanding junior sociology major; the Outstanding Sociology Minor Award is presented to the graduating student with the most outstanding minor GPA record; and the Outstanding Sociological Statistics and Methods Award is given to the sociology major with the best overall record in Sociology 220(3220), 230(3230), and 231(3231). This award carries a stipend for the student to serve as an undergraduate course assistant for Sociology 220(3220), or 230(3230) and 231(3231).

Department Honors
The sociology department will award department honors for those B.A. and B.S. degree candidates in sociology with an overall grade point average of 3.2 or better. They must also successfully complete an independent study through Soc 350(4350), Special Study.

Graduate Studies
2+3 B.A. and M.A. in Sociology
The 2+3 combined B.A./M.A. program in sociology provides an opportunity for students of recognized academic ability and educational maturity to fulfill integrated requirements of the undergraduate and master's degree programs from the beginning of their junior year. Because of its accelerated nature, the program requires the completion of some lower-division requirements of (12 hours) before entry into the three-year portion of the program. When all the requirements of the B.A. and M.A. programs have been completed, the students will be awarded both the baccalaureate and master's degrees. A carefully designed program can permit a student to earn both degrees within as few as ten semesters.

The combined program requires a minimum of 138 hours, of which 30 must be at the 300 or 400 levels. In qualifying for the B.A., students must meet all University and college requirements, including the requirements of the undergraduate major described previously. During the junior and senior years, students normally take a 300 level research practicum course, Sociology 400(5400), Sociology 402(5402), and Sociology 404(5404). In qualifying for the M.A., students must meet all University and Graduate School requirements, including satisfactory completion of a minimum of 30 graduate credit hours. Up to 12 graduate credit hours may be applied simultaneously to both the B.A. and M.A. programs. Any 300 level course applied to the M.A. requirements will require additional work to qualify for graduated credit.

Students should apply to the Graduate Director of the Department of Sociology for admission to the 2+3 combined degree program in sociology the semester they will complete 60 undergraduate degree credit hours, but no later than the accumulation of 90 credit hours. A cumulative grade point average of 3.0 or higher, satisfactory scores on the general aptitude test of the Graduate Record Examination, and three letters of recommendation from faculty are required for consideration. Students will be admitted to the 2+3 programs under provisional graduate status until they have completed 30 credit hours with a grade point average of...
3.0 or higher. After completion of the provisional period, and with recommendation of the Graduate Director, students can be granted full admission into the program. Students must maintain a grade point average of 3.0 or higher throughout the combined program. Students who officially withdraw from the 2 + 3 combined degree program will be awarded the B.A. degree when they have successfully completed all the requirements for the degree.

The following requirements must be completed prior to enrolling in the 2 + 3 program:

010(1010) Introduction to Sociology and three additional sociology courses.

The following UNDERGRADUATE courses are required for majors in the 2 + 3 program:

210(3210), Sociological Theory
220(3220), Sociological Statistics (or an approved statistics course)
230(3230), Research Methods
231(3231), Laboratory in Research Methods

GRADUATE SOCIOLOGY REQUIREMENTS FOR STUDENTS IN TH 2 + 3 PROGRAM

The following GRADUATE courses are required at the 300 to 499-level:

1. Sociology 400(5400), Proseminar in Sociology
2. Sociology 402(5402), Advanced Quantitative Techniques
3. Sociology 404(5404), Advanced Methodology
4. Five additional courses (15 hours) that have been approved by the Graduate Director

Graduate Exit Requirements:
A student's program must include one of the following exit projects: a 6-hour internship (Sociology 480(5480), Individual Study) or a 6-hour preparatory sequence and an approved paper (Sociology 490(5490), Supervised Research). Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

M.A. in Sociology
The department offers a flexible program of studies leading to the Master of Arts degree in sociology. Course work combines intensive examination of the core areas of sociology with acquisition of the analytical skills of sociological investigation. A variety of career options are available to the master's-level graduate, including: program evaluation and research; field or case work related to community issues; administrative roles in social agencies and planning organizations; or doctoral studies in sociology or related fields.

The curriculum is designed to serve the needs of full-time students as well as working students who are able to engage only in part-time studies. This design allows pre-career and mid-career students to prepare for employment in education, service agencies, community organizations, government agencies, or businesses. The curriculum also invites students to take advantage of the university's urban setting through integration of selected work experiences with practicum courses and academic seminars under faculty guidance. The curriculum emphasizes theoretical, analytic, and substantive approaches to urban-related problem solving.

Admission Requirements
Individuals with at least the equivalent of the department's B.A. or B.S. degree in sociology may be admitted to the Graduate School as candidates for the M.A. degree. Students with bachelor's degrees in fields other than sociology may be admitted to pursue graduate sociology studies under the condition that they make up core deficiencies prior to graduate work.

In addition to meeting the general admission requirements of the Graduate School, a student should ordinarily have:

• A baccalaureate degree with a minimum grade point average of 3.00.
• At least 15 hours in the social sciences, of which 12 should be in upper-level courses.
• Three letters of recommendation from persons qualified to judge the candidate's potential for success in the program.
• A statement describing the applicant's interest in graduate study in sociology.

Students who do not meet these requirements may be provisionally admitted upon approval of the department and the dean of the Graduate School. Admission and financial aid decisions are made on the basis of past academic record, program performance, and career commitment. Students wishing to continue regular employment outside the university may enroll on a part-time basis. Requests for further information about the program should be sent to:

Director of Graduate Studies
Department of Sociology
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Students admitted to the program are assigned a graduate adviser from whom they should obtain a copy of the Graduate Student Handbook and with whom they should consult periodically on academic and career considerations.
Degree Requirements

Master of Arts in Sociology Each student shall prepare an adviser-approved course of study during the first semester of enrollment. Candidates for the M.A. degree shall complete a minimum of 30 hours of approved study, at least 21 of which must be taken in courses offered by the department.

Core Curriculum

400(5400), Proseminar in Sociology
402(5402), Advanced Quantitative Techniques
404(5404), Advanced Methodology

The sociology department participates in a joint quantitative techniques and methodology series of courses with the other social sciences which can be substituted for the above.

Concentration The department offers opportunities for intensive work in one of the several research areas of department faculty members, which allows the flexibility for comprehensive and coherent exposure to the methods and insights of the discipline. Matriculating students are encouraged to plan, with their advisers, a coherent program of studies consistent with their career interests.

Exit Requirements A student's program must include one of the following exit projects: a 6-hour internship; Sociology 480(5480), Individual Study or a 6-hour preparatory sequence and an approved paper Sociology 490(5490), Supervised Research. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

Career Outlook

The following career information is adapted from the American Sociological Society Web site. For more information, see http://www.asanet.org/.

A BA or BS in sociology is excellent preparation for graduate work in sociology for those interested in an academic or professional career as a professor, researcher, or applied sociologist.

The undergraduate degree provides a strong liberal arts preparation for entry level positions throughout the business, social service, and government worlds. Employers look for people with the skills that an undergraduate education in sociology provides. Since its subject matter is intrinsically fascinating, sociology offers valuable preparation for careers in journalism, politics, public relations, business, or public administration fields that involve investigative skills and working with diverse groups. Many students choose sociology because they see it as a broad liberal arts base for professions such as law, education, medicine, social work, and counseling. Sociology provides a rich fund of knowledge that directly pertains to each of these fields.

The MA offers students access to an even wider variety of careers. Sociologists become high school teachers or faculty in colleges and universities, advising students, conducting research, and publishing their work. Over 3000 colleges offer sociology courses. Sociologists enter the corporate, non-profit, and government worlds as directors of research, policy analysts, consultants, human resource managers, and program managers. Practicing sociologists with advanced degrees may be called research analysts, survey researchers, gerontologists, statisticians, urban planners, community developers, criminologists, or demographers. Some MA sociologists obtain specialized training to become counselors, therapists or program directors in social service agencies.

Today, sociologists embark upon literally hundreds of career paths. Although teaching and conducting research remains the dominant activity among the thousands of professional sociologists today, other forms of employment are growing both in number and significance. In some sectors, sociologists work closely with economists, political scientists, anthropologists, psychologists, social workers and others reflecting a growing appreciation of sociology's contributions to interdisciplinary analysis and action.
Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the Fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

10(1010), 40(1040), 75(1075), 99(1999), 100(2100), 102(2102), 103(2103), 160(2160), 180(2180), 200(3200), 202(3202), 210(3210), 214(3214), 220(3220), 224(3224), 230(3230), 231(3231), 241(3241), 245(3245), 250(3250), 262(3262), 268(3268), 278(3278), 280(3280), 286(3286), 290a(3290a), 290b(3290b), 290c(3290c), 300(4300), 304(4040), 308(4040), 310(4310), 312(4312), 314(4314), 315(4100), 316(4316), 317(4317), 320(4320), 331(4331), 336(4336), 338(4338), 340(4340), 342(4342), 344(4344), 346(4446), 350(4350), 352(4352), 354(4354), 356(4356), 360(4360), 361(4361), 370(4370), 375(4375), 378(4378), 380(4380), 394(4395).

10(1010) Introduction to Sociology (3) [V, SS]
An introduction to sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

40(1040) Social Problems (3) [V, SS]
Conditions defined by society as social problems, as well as potential solutions, are examined from various sociological perspectives. Emphasis is given to problem issues prevalent in metropolitan settings. Analyses focus on victims and beneficiaries of both problem conditions and alternative solutions.

99(1999) The City (3) [MI, V, SS]
(Same as Criminology and Criminal Justice 99, Political Science 99(1990), and Interdisciplinary 99(1990).)
Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is for freshmen and sophomores. It is open to juniors and seniors with the consent of instructor.

100(2100) Women in Contemporary Society (3)
Prerequisite: Sociology 10(1010) or Interdisciplinary 50 or consent of instructor. An introduction to the sociological analysis of the status of women in society, including their work, family, and political roles. Socialization, education, and the women's movement will also be considered, as these affect the position and participation of women in a variety of social arenas.

102(2102) Women, Gender, and Diversity (3)
Same as Interdisciplinary 102(2102) and Psychology 102(1102). An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. Explores issues of power, identity, and relationships in women's lives.

103(2103) Sex Roles in Contemporary Society (3)
Prerequisite: Sociology 10(1010) or Interdisciplinary 50 or consent of instructor. The study of social processes through which sex roles are developed and acquired; the impact of gender and sex roles on personal identity and social conduct; the relationship between sex roles and social inequality; and individual and social consequences of changing sex roles in contemporary society.

160(2160) Social Psychology (3)
(Same as Psych 160(2160). Prerequisite: Sociology 10(1010). Study of the interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

180(2180) Alcohol, Drugs, and Society (3)
(Same as Criminology and Criminal Justice 180(2180).) Prerequisite: Sociology 10(1010) and Psych 3(1003). This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

200(3200) Sociology of Deviant Behavior (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Theories of the nature, causes, and control of deviance as a social phenomenon. Application of theories to specific substantive areas, such as mental disorder, delinquency, drug abuse, suicide, unconventional sexuality, and physical disability.

202(3202) Urban Sociology (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Urbanization as a world phenomenon; urban social and ecological structures and changing life styles; the decision-making processes in urban problem-solving.

210(3210) Sociological Theory (3)
Prerequisite: Sociology 10(1010) or consent of instructor. The nature of sociological theory. An investigation of theory from Comte through contemporary developments. Contributions made by theorists in related disciplines.

214(3214) Juvenile Delinquency and Youth Crimes (3)
Prerequisite: Three hours of 100 level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention.
220(3220) Sociological Statistics (3)
Prerequisites: Sociology 10(1010) and Math 20(1020) or 30(1030). Issues and techniques of statistical analyses relevant to quantitative sociological research, e.g., elementary probability, measurements of central tendency and dispersion, measures of relationships including linear regression and correlation, inferential statistics.

224(3224) Marriage and the Family (3)
(Same as Nursing 224(3224). Prerequisite: Sociology 10(1010) or consent of instructor. The study of patterns of close relationships, and how these relationships are influenced by larger social forces. Topics include: love, dating, mate selection, cohabitation, alternative lifestyles, working families, parenting, single mothers, families in crisis, domestic violence, and divorce. Universal and variable aspects of family organization, family role systems, and changes in family social structure.

230(3230) Research Methods (3)
Prerequisites: Sociology 10(1010) and satisfaction of mathematics proficiency requirement and Sociology 220(3220) or consent of instructor. Research planning and interpretation, principles of research design, measurement, and sampling. Techniques for the collection, analysis, and presentation of data.

231(3231) Laboratory in Research Methods (1)
Prerequisite: Must be taken concurrently with Sociology 230(3230). Laboratory course to accompany Sociology 230(3230). The course will include practical experience in the conduct of research.

241(3241) Selected Topics in Macro-sociology (1-3)
Prerequisite: Sociology 10(1010) or consent of instructor. Examination of a specific topic that focuses on large-scale social systems and the structural relationships among social organizations and institutions. May be taken more than once for credit provided the topic of the course is different each time.

245(3245) Sociology of South Africa (3)
Prerequisite: Sociology 10(1010) or consent of instructor. An analysis of South African society as a sociocultural system, with attention to its demographic, ecological, and social structures; its distinctive social institutions and life styles; and the social dynamics of modernization, urbanization, and ethnicity. This course satisfies the Cultural Diversity requirement.

250(3250) Sociology of Victimization (3)
Prerequisites: Soc 10(1010). Examines the role of social factors in a wide range of kinds of victimization—crime, violence, natural disasters, accidents, disease, etc. The topic of social reactions to various kinds of victimization is also covered. Sociological theories of victimization are emphasized.

262(3262) Social Psychology of Urban Life (3)
Prerequisites: Soc 10(1010) or Psy 3(1003). Examines how people experience and give meaning to their lives as urban dwellers. Topics include: cognitive maps, crowding, sensory overload, lifestyle diversity, strangers, urban tolerance, social networks, segmentation of personal life, and quest for identity.

264(3264) The Sociology of Religion (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Religion as a universal social institution, its development, forms, and influence in the world, including Western and Eastern religions. Sociological analysis of the effects of religion upon the individual and societies. Religion, its roles in social change, and contemporary trends.

268(3268) The Sociology of Conflict (3)
Prerequisite: Sociology 10(1010) or consent of instructor. The conditions under which social conflicts arise, develop, and are terminated (or in some cases resolved) are examined. The functions of different levels of conflict are studied to determine the potential effects and outcomes of planned intervention.

270(3270) Socialization (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Analysis of the structural and social psychological aspects of roles and the self as a product of social interaction.

278(3278) Sociology of Law (3)
Prerequisite: Sociology 10(1010) or consent of instructor. A study of law and society with emphasis on the sociological analysis of specific problems of legal doctrines and legal institutions. The law is examined as an instrument of social control through study of the courts; the legal profession, the police, and various social institutions. Consideration is given to law as an instrument of social change.

280(3280) Society and Technology (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Technology in industrial and post-industrial societies. The social shaping of technological systems. The role of technology in social change.

286(3286) Society, Arts, and Popular Culture (3)
(Same as Anth 286(3286). Prerequisite: Sociology 10(1010) or Anth 11(1011). The relationship of artists, writers, and musicians; their traditions and modes of artistic expression to variant social structures and institutions; and social pressures and rewards.
290a(2920a), 290b(2920b), 290c(2920c) Undergraduate Seminar in Sociological Issues (3)
Prerequisites: Sociology 10(1010) and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by other undergraduate courses. May be taken up to three times for nine hours of credit, provided the subject matter is different each time the seminar is taken.

298(3298) Practicum In Field and Laboratory Research (1-3)
Prerequisites: Sociology 220(3220) and Sociology 230(3230), or consent of instructor. Intensive field or laboratory research to be taken subsequent to, or concurrent with, a specific substantive course. May be taken twice for credit.

Note: Any 300 level course taken for major elective credit requires prior completion of two of the following: Sociology 210(3210), Sociology 220(3220), or Sociology 230(3230).

300(4300) Communities and Crime (3)
(Same as Criminology and Criminal Justice 300(4300)).
Prerequisite: Criminology and Criminal Justice 110(1110), 120(1120), 130(1130), 210(2210), 2202220), or consent of instructor. Analysis of the sources, consequences, and control of crime within communities. Emphasis on social and ecological theories of crime and on population instability, family structure, and the concentration of poverty as causes of crime. Community crime prevention efforts are also addressed.

304(4040) Survey Research Practicum (3)
(Same as Econ 304(4140) and PolSci 304(4040)).
Prerequisites: Junior standing, Sociology 220(3220), Sociology 230(3230), and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. May be taken more than once for credit provided the course topic is different each time.

308(4940) Leadership and Management in Nonprofit Organizations (3)
(Same as SW 394(4940), PolSci 394(4940), and PPA 394(4940)). Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilizations; and program development management and evaluation.

310(4310) Selected Topics in Sociological Theory (1-3)
Prerequisite: Sociology 210(3210). Focused examination of selected issues, the contributions of individual theorists, and methodological implications in the study of sociological theory. May be taken twice for credit.

312(4312) Sociology of Wealth and Poverty (3)
Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. Theory and research on social stratification and inequality in contemporary societies.

314(4314) Social Change (3)
Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. Theories of social change applied to the analysis of small and large social systems, including the planning of change and projecting of alternative futures.

315(4100) Diversity and Social Justice (3)
(Same as Social Work 315(4100)). Prerequisites: Sociology 10(1010) or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

316(4316) Power, Ideology, and Social Movements (3)
Prerequisite: Sociology 10(1010) and junior standing or consent of instructor. Effect of events and social processes on thought and action in the twentieth century. Social functions of ideologies as expressed in movements and formal and informal organizations seeking social change.

317(4317) Social Psychology of Conflict and Negotiation (3)
(Same as Psychology 317(3317). Prerequisite: nine (9) hours of Psychology or nine (9) hours of sociology, including Psych 160(2160) or Soc 160(2160). The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

320(4230) Forms of Criminal Behavior (3)
(Same as Criminology and Criminal Justice 320(4320).) Prerequisite: Criminology and Criminal Justice 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of, and responses to, these crimes.
330(4330) Field Research in Crime and Deviance (2-4)
Prerequisites: Soc 214(3214). Students will participate in individual or group research projects involving systematic data collection and sociological analysis concerning the causation or societal reaction to crime, delinquency, or related forms of deviance. One option available to students will be an opportunity to study organizations dealing with juvenile or adult offenders.

331(4331) Qualitative Methods in Social Research (3)
Prerequisite: Sociology 220(3220) and Sociology 230(3230), or their equivalent, or consent of instructor. This course is devoted to such qualitative methods as participant observation, intensive interview, content analysis, and oral history, among others. The place of these kinds of techniques in social research, as well as the issues raised by them, will be considered. Students will participate in individual or group research projects using one or more of the methods discussed.

336(4336) Organizations and Environments (3)
Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. Internal and external forces that influence the structures, adaptive flexibility, and actions of public and private organizations and agencies are examined. Specific foci include: organizational responses to environmental opportunities, constraints, and contingencies; sources of conflict and impediments to organizational goal attainment; and strategies for increasing organizational effectiveness, efficiency, and chances for survival.

338(4338) Sociology of Health (3)
(Also as Nursing 338(4338).) Prerequisites: Sociology 10(1010) and junior standing. Exploration of social dimensions and issues related to health and illness, such as access to the health care delivery system; factors influencing prevention, utilization and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

340(4340) Race, Crime, and Justice (3)
(Also as Criminology and Criminal Justice 340(4340).) Prerequisite: Criminology and Criminal Justice 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

342(4342) World Population and Ecology (3)
Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. Sociological theories and research relating people to their ecological environments. Topics include fertility and population change in the non-Westem-world. Emphasis is directed to population policies in e.g., Africa and India and China.

344(4344) Problems of Urban Community (3)
Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. The urban community as an area of social action and problem solving with emphasis on the sociological aspects of urban problems.

346(4646) Demographic Techniques (3)
Prerequisites: Sociology 220(3220) and Sociology 230(3230), or consent of instructor. Practicum experience with computation and analysis of major demographic measures of population size, growth, and shape; fertility; mortality; immigration; emigration; and morbidity. Special attention to comparisons of standard Western and non-Western demographic models, with emphasis on computer modeling.

350(4350) Special Study (1-10)
Prerequisite: Consent of instructor. Independent study through readings, reports, and field work.

354(4354) Sociology of Business and Work Settings (3)
Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. The sociology of work and occupations in America, Europe, and Asia; organization structures and worker participation; worker attitude, behaviors, and commitment; the socialization of the worker; determinants of worker behavior; social problems of work and business; and the impact of community on work place and business behavior.

356(4356) Sociology of Education (3)
Prerequisite: Sociology 10(1010) and junior standing, or consent of instructor. Education as a social institution, its role as an agent of socialization, and its effect upon the processes of social change and social mobility. The relationship between the school and its community.

360(4360) Sociology of Minority Groups (3)
Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. The study of dominant-subordinate group relations. Religion, ethnicity, race, and gender as factors in the unequal distribution of power.

361(4361) Social Gerontology (3)
(Also as Gerontology 361(4361).) Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. Topics include: sociological theories of aging, technological and social change and its effects on the environment of older people, and prejudice and discrimination against the elderly.
370(4370) Selected Topics in Techniques of Sociological Research (1-3)
Prerequisite: Sociology 220(3220), 230(3230), or consent of instructor. The study of a specific research technique used in sociological analyses. May be taken more than once for credit provided the course topic is different each time.

375(4375) The Social Psychology of Disabilities (3)
Prerequisite: Sociology 160(2160) or Psych 160(2160) or consent of instructor. (Same as Psychology 375(4375).) A social psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

378(4378) Selected Topics in Social Psychology (1-3)
Prerequisite: Psych 160(2160) or Sociology 160(2160), or consent of instructor. Focused examination of selected issues, concepts, and methods in the study of social interaction. May be taken twice for credit.

380(4380) Selected Topics in Social Policy (1-3)
Prerequisite: Sociology 10(1010), Junior standing or consent of instructor. Examination of a specific sociological topic of current relevance in the community. May be taken more than once for credit provided the course topic is different each time.

385(4385) Internship in Sociology (1-6)
Prerequisite: Junior standing and consent of instructor. Students participate in supervised placements in a position related to the profession of sociology.

400(5400) Proseminar in Sociology (3)
Required of all entering graduate students in the fall semester of the first year of residency. An overview of the field of contemporary sociology, with emphasis on the major theories, issues, research approaches, and ethical problems in the field today, and an introduction to theory construction, measurement, and design strategies.

402(5402) Advanced Quantitative Techniques (3)
Prerequisite: Sociology 220(3220) or consent of instructor. A study of advanced quantitative analysis of sociological data, focusing on problems of multivariate analysis, sampling theory and techniques, and the use of electronic data processing in approaching these problems.

404(5404) Advanced Methodology (3)
Prerequisite: Sociology 230(3230) or consent of instructor. A study of methodological problems on an advanced level, focusing on contemporary issues in the processes of inquiry with particular emphasis on the applicability of different modes of research to various types of theoretical problems. Consideration of ethical problems in social research.

406(5406) Research Practicum (3)
Prerequisites: Sociology 400(5400) and consent of instructor. Involvement of students in an individual or group project culminating in a report, in order to provide firsthand experience in integration of theoretical concerns, methodological principles, and appropriate research techniques in an empirical study, the subject of which shall be determined in collaboration with the instructor.

410(5410) Comparative Social Structures (3)
Prerequisite: Sociology 400(5400) or consent of instructor. Social institutions in selected societies are examined in terms of their similarities and differences. Typically, non-American and American social structures such as religion, education, politics, family, and economy are compared, along with population dynamics and change, myths, values, and norms. Societies are selected depending on specialty of faculty and interests of students. May be repeated for credit if the topic is different.

415(5415) Foundations of Criminological Theory (3)
(Same as Criminology and Criminal Justice 415(5415).) Prerequisites: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420(5420) Theories of Conflict (3)
Prerequisite: Sociology 400(5400) or consent of instructor. The conflict perspective in sociology is contrasted with consensus models of society. Conflict theorizing is traced from the Classical social thought tradition in Western civilization to its modern Marxist and non-Marxist formulations in contemporary sociology. Ethical implications for social conflict intervention are considered.

422(5422) Family and Interpersonal Conflict Resolution (3)
Prerequisite: Sociology 420(5420) or consent of instructor. The sources and functions of interpersonal conflict in family and neighborhood settings are analyzed. Mediation and conciliation strategies are developed in relation to primary and secondary structures, role systems, and social change.
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424(5424) Conflict Management in Organizations (3)  
Prerequisite: Sociology 420(5420) or consent of instructor.  
Intrinsic sources of inter- and intraorganizational conflict and related methods of mediation are examined. Conflict management strategies and situational manifestations of conflict are analyzed within the context of antecedent conditions, such as domain dissensus, differential interests and goals, previously unresolved disputes, unbalanced power relations, structural barriers to communications, internal and external competition for resources, and environmental change.

426(5426) Community and Regional Conflict Intervention (3)  
Prerequisite: Sociology 420(5420) or consent of instructor.  
Community and regional conflicts are examined, with emphasis on paradigms for analyzing power, policy, and social change, and on developing intervention skills through simulation exercises. Intervention roles and approaches, such as mediation, conciliation, arbitration, and advocacy are discussed.

430(5430) Policy Mediation Processes (3)  
Prerequisite: Sociology 426(5426) or consent of instructor.  
Sociological theories of conflict are applied to public issues and policy-making, with an emphasis on building analysis and practice skills. Processes of mediated problem solving are studied and applied to conflict between jurisdictions, between citizens and governments, and between public and private sectors.

432(5432) Survey Research Methods (3)  
(Same as Ed Rem 432(6712), Pol Sci 406(6406).)  
Prerequisites: An introductory statistics course (such as Soc 220(3220)) or consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

440(5440) Seminar in Urban Sociology (3)  
Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

442(6442) Minority Aging (3)  
(Same as Gerontology 442(6442). Prerequisite: Sociology 361(4361) or consent of instructor. The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

444(5444) Social Policy and Community Planning (3)  
Prerequisite: Consent of instructor. Analysis of the formulation of policy as a social process with concentration on political as well as technical-rational elements. Relation of social policy formation to planning at the community level and analysis of the elements and dynamics of community planning. Analysis of and exposure to planning agencies in the St. Louis metropolitan area.

445(6445) Sociological Dimensions of Chronic Illness (3)  
(Same as Gerontology 445(6445). Prerequisite: Sociology 400(5400) or consent of instructor. The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

446(6446) Selected Topics in Health Care Policy (3)  
(Same as Public Policy Administration 446(6460) and PolSci 446(6446). Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

449(5449) Issues in Retirement (3)  
(Same as Gerontology 449(5449). Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States—its processes, causes, and consequences—in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

450(5450) Seminar in Social Psychology (3)  
Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

452(6200) Family Policy (3)  
(Same as PolSci 416(6416) and SW 452(6200) Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

460(5460) Seminar in Deviant Behavior (3)  
Prerequisites: Nine hours of undergraduate course work in sociology and consent of the instructor. Advanced theories of the nature, causes, and control of deviance as a social phenomenon.
461(5461) Law and Social Control (3)
(Same as Criminology and Criminal Justice 430(6430).)
Prerequisites: Graduate standing and consent of instructor.
Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

468(5451) Negotiating Workplace Conflict (3)
(Same as Mgt. 419(5612) and PPA 468(6680).
Prerequisites: PPA/Mgt. 460(6600), and Graduate Standing. Examines conflict and cooperation between individuals, groups, and organizations over control of work. A central theme is how this conflict is expressed, controlled, and resolved. Students participate in exercises to learn basics of two-party negotiations.

470(5470) Seminar in Sociological Issues (1-3)
Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by one of the other 400-level courses. May be taken up to three times for up to nine hours of credit, provided the subject matter is different each time the seminar is taken.

475(5475) Introduction to Evaluation Research Methods (3)
(Same as Psych 475(5475), Public Policy Administration 475(6750), and Criminology and Criminal Justice 475(5475).) Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

476(5476) Research Practicum in Evaluation Research Methods (3)
Prerequisites: Sociology 475(5475) and consent of instructor. Instruction in, and supervision of, research design and data collection for evaluation of sociodeviance action program research report. Concurrent with on-site participant observation.

480(5480) Individual Study (3)
Prerequisite: Consent of adviser and instructor. Designed to give the student the opportunity to pursue particular interests within the discipline and/or to study areas not currently covered by formal courses. Guided by faculty with appropriate interests. May be taken only twice.

490(5490) Supervised Research (1-10)
Prerequisites: Consent of instructor. Individual supervision of research leading to the preparation of a thesis, research paper, or publishable article, in which the student demonstrates skills in the discipline of sociology.

492(5492) Advanced Sociological Theory (3)
Prerequisite: Sociology 210(3210) or consent of instructor. Recent and current developments in sociological theory in light of its tradition and methodological issues. The state of modern theory with regard to specific conceptual, substantive, and methodological concerns.

495(5495) Sociological Reporting (3)
Prerequisites: Sociology 400(5400), Sociology 402(5402), and Sociology 404(5404). As part of the M.A. degree exit requirement, the seminar offers directed practice in the interpretation and reporting of sociological data in a wide range of styles, including those appropriate for research reports, journal articles, policy-papers, non-technical magazines, books, and monographs, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored.

498(5498) Advanced Seminar in Gerontology (3)
Prerequisite: Graduate standing. This course will provide in-depth analysis of specialized topics in Gerontology which are not covered in required courses. (Course may be repeated for a maximum of nine credits, assuming topics are different.)
Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either a minor or a certificate in a designated area of study. There are also a number of courses which are designated as interdisciplinary and which may or may not be part of a particular interdisciplinary minor or certificate program.

These interdisciplinary courses and programs bring together the resources of two or more subject areas to focus on topics that benefit from being studied from the point of view of more than one discipline. In some cases, faculty from several departments teach as a team, giving students the opportunity to experience faculty dialogue in a crossdisciplinary fashion.

Minor in American Studies
American Studies is an internationally recognized academic field which involves an interdisciplinary approach to the study of the culture(s) of the United States, its colonial antecedents, and its indigenous peoples.

Students interested in this minor should contact the coordinator of American Studies for advice and information.

Candidates must have a cumulative grade point average of 2.0 or better in the 18 credit hours required for the minor. Three hours of the minor may be taken on a satisfactory/unsatisfactory basis. Candidates wishing to take American Studies courses from the Honors College (see below) must be members of the Honors College or must have a 3.0 cumulative grade point average.

Requirements for the minor.
Completion of the American Studies minor requires at least 18 semester credit hours, including at least two courses (6 hours) from Section A and at least two courses (6 hours) from Section B. The other 6 hours may be chosen from Section A, B, and/or C. Please read the special requirements below.

A. Core courses in American Studies (all courses are 3 credits except where otherwise indicated).
At least two of the following core courses are required to qualify for the minor. Of this minimal requirement, one course must be chosen from either American Studies or English and the other from either History or Political Science. Students may take up to two additional courses from this group, and these may be chosen from any department or discipline.

Interdisciplinary: American Studies
90, The Foundations of American Culture
295, Issues in American Culture

Anthropology
71, Native American Literature

120(2120), Native Peoples of North America
121, Native Peoples of Eastern North America
122, Native Peoples of Western North America

Art and Art History
90, Freshman Seminar (when the topic is appropriate)
116(1104), North American Indian Art
158(2278), American Art
159(2279), American Architecture

Criminology and Criminal Justice
99(1990), The City

English
17(1170), American Literary Masterpieces
70(1700), African-American Literature
71(1710), Native American Literature (Same as Anth 71)
171(2710), American Literature I
172(2720), American Literature II

History
2(1001), American Civilization (to the mid-nineteenth century)
4(1002), American Civilization (from the mid-nineteenth century)
6(1003), African-American History
7(1004), The History of Women in the United States

Honors
121(1210), American Traditions: Humanities
122(1220), American Traditions: the Fine and Performing Arts
123(1230), American Traditions: Social Sciences
131(1310), Non-Western Traditions: Humanities
132(1320), Non-Western Traditions: the Fine and Performing Arts
133(1330), Non-Western Traditions: Social Sciences (Admission to these Honors Seminars requires consent of the dean of the Honors College: note that depending on instructor and content, Honors 121(1210) can fulfill the requirements from this group in literature/American Studies and Honors 123(1230) can fulfill the History/Political Science requirement. Honors 131(1310)-133(1330) can qualify as additional Group A choices when their focus is on Native American traditions.

Music
6(1002), Introduction to African American Music
7(1060), Introduction to Jazz

Philosophy
107(3347), American Philosophy

Political Science
11(1100), Introduction to American Politics
99(1990), The City
130(2300), State Politics
135(2350), Introduction to Urban Politics
165(2650), American Political Thought
190(2900), Studies in Political Science (when appropriate).

Sociology
99(1990), The City

B. Option courses in American Studies (all courses are 3 credits except where otherwise indicated). To complete the American Studies minor, students must choose at least two courses from this group, from any department or discipline, and may choose up to four courses in this group. Courses chosen from this group must be chosen from at least two departments.

Anthropology
250(3250), American Folklore
291(3291), Current Issues in Anthropology (when appropriate).

Art and Art History
65(1165), Photography and Society (same as Interdisciplinary 65)
215(4402), Topics in Tribal Art
258(4475), Topics in American Art
291(4481), Topics in Contemporary Art (when appropriate)

Communication
50(1050), Introduction to Mass Media
243(2243), Communications in American Politics
350(3350), Mass Communication History
352(3352), Mass Media Criticism

Economics
205(2800), History of American Economic Development (same as History 205(2800))

Education
Ed Fnd 251(3251), Black Americans in Education
Ed Fnd 330(4330), History of American Education
Ed Fnd 332(4332), Progressivism and Modern Education

English
280(3800), Topics in Women and Literature (when appropriate)
373(4610), Selected Major American Writers I
374(4620), Selected Major American Writers II
375(4640), American Fiction to World War I
376(4650), Modern American Fiction
380(4930), Studies in Women and Literature (when appropriate)
395(4950), Special Topics in Literature (when appropriate)

History
203(3042), U.S. Social Movements in the 20th Century
205(2800), History of American Economic Development (Same as Economics 205(2800)
210, African-American History: From Slavery to Civil Rights

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212(3052), African-American History: From Civil Rights to Black Power
219(2219), U.S. Labor History
257(4013), United States History for the Secondary Classroom
300(3000), Selected Topics in History (when appropriate)
312(3012), The Indian in American History
315(3031), History of Women in the United States
316(3021), U. S. Urban History
318(3053), African-American Women's History
320(3043), History of Crime and Justice
393(4004), Senior Seminar (5 credits: when appropriate)

Honors College
(when topics are appropriate, any of the seminars below can qualify as an "option" course for the American Studies minor. Admission to these courses requires the consent of the dean of the Honors College.)
201(2010), Inquiries in the Humanities
202(2020), Inquiries in the Fine and Performing Arts
203(2030), Inquiries in the Social Sciences
207(2070), Inquiries in Education
301(3010), Advanced Seminar in the Humanities
302(3020), Advanced Seminar in the Fine and Performing Arts
303(3030), Advanced Seminar in the Social Sciences
307(3070), Advanced Seminar in Education
351(3510), Research Seminar: Humanities
352(3520), Research Seminar: Fine and Performing Arts
353(3530), Research Seminar: Social and Behavioral Sciences
3573570), Research Seminar: Education

Interdisciplinary
65(1165), Photography and Society (same as Art 65)

Philosophy
310(4410), Significant Figures in Philosophy (when appropriate)

Political Science
228, Judicial Politics and Policy
230(3300), The American Presidency
231(3331), Congressional Politics
232(2320), African Americans and the Political System
234(3340), Politics and the Media
235(3450), Political Parties and Elections
238, Women in U. S. Politics
320(3200), Constitutional Law
321(3210), Civil Liberties
332(3390), Studies in American Politics (when appropriate)

Sociology
40(1040), Social Problems
100(2100), Women in Contemporary Society
268(3268), The Sociology of Conflict
316(4316), Power, Ideology and Social Movements
360(4360), Sociology of Minority Groups
380(4380), Selected Topics in Social Policy (when appropriate)
C. American Studies elective courses (courses are 3 credit hours unless otherwise indicated). Up to two courses from this group may be used for the American Studies minor. When two courses are chosen from this group, they must be chosen from different departments.

Anthropology
126(2126), Archaeology of Historic St. Louis
131(2131), Archaeology of Missouri
132(2132), Archaeology of North America
138(2138), African-American Archaeology

Art and Art History
191(2281), Art Since 1945
263(2267), Photography Since 1945

Communication
218(2218), Public Policy in Telecommunication
332(3332), Intercultural Communications
343(3343), The Rhetoric of Protest
355(3355), Media Law and Regulation

Criminology and Criminal Justice
240(2240), Policing
340(4340), Race, Crime and Justice

English
306(4060), Adolescent Literature
384(4770), Modern Poetry
385(4760), Modern Drama
386(4740), Poetry since World War II

History
301(3001), United States History: Colonial America to 1763
302(3002), United States History: Revolution and the New Nation, 1763 - 1815
303(3003), United States History: Nationalism and Sectionalism, 1815 to 1860
304(3004), United States History:1860-1900
305(3005), United States History: 1900-1940
306(3006), United States History: 1940 to the Present
311(3041), Topics in American Constitutional History
313(3044), American Military History to 1900
314(3045), American Foreign and Military Affairs, 1900-Present
315(3031), History of Women in the United States

Political Science
129(2290), Women and the Law
226(2260), Law and the Individual
233(3330), Introduction to Political Behavior
241(3410), The Politics of Business Regulation
242(2420), Introduction to Public Policy
246(3460), The Politics of Poverty and Welfare
282(2820), United States Foreign Policy
333(3370), Mock Constitutional Convention

Social Work
150(1200), Social Welfare as a Social Institution
285(3400), Social Issues and Social Policy Development
314, Social Work with Culturally Diverse Populations

Sociology
40(1040), Social Problems
180(2180), Alcohol, Drugs and Society
202(3202), Urban Sociology
354(4354), Sociology of Business and Work Settings

In addition, courses with variable topics such as Topics in..., Studies in..., and seminars may be taken when the topics are appropriate. When in any doubt, see the coordinator of American Studies; such courses must be approved for inclusion in your American Studies minor before the semester registration deadline.

Minor in Black Studies
The minor in black studies is open to all undergraduate students at UM-St. Louis, whatever their major field. This minor is an interdisciplinary course of studies intended to provide a focus for new and existing courses in the area of black and African diaspora studies. A faculty member with expertise in black or diaspora studies is designated as coordinator. Students interested in pursuing the minor should consult the coordinator for advisement. For appropriate referral, please contact the advising office at the College of Arts and Sciences.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor. Courses applied to the minor may not be counted for a major.

Any courses relevant to black or African diaspora studies, offered by a humanities or social science department, may be taken when approved by the coordinator for the minor. Special topics courses, directed studies or readings may also be included for credit if relevant to the minor.

Requirements

1. Students must take one of the following:
   Interdisciplinary 40, The Black World
   History 83(1063), The African Diaspora to 1800
   History 84(1064), The African Diaspora Since 1800

2. A minimum of two courses from the following:
   Anth 5(1005), Human Origins
   Anth 124(2124), Cultures of Africa
   Art 117(1105), African Art
   English 70(1700), African American Literature
   History 6(1003), African American History
   History 81(1061), African Civilization to 1800
   History 82(1062), African Civilization Since 1800
   Music 6(1002), Introduction to African-American Music
3. Students should select a minimum of three courses from the following list. One course must be a social science and one must be a humanities course.

**Anth 234(3234), Cultural Continuity and Change in Subsaharan Africa**

**Anth 235(3235), Women in Subsaharan Africa: A Contemporary Perspective**

**History 318(3053), African American Women's History**

**History 319(3050), Topics in African-American History**

**History 380(3301), West Africa to 1800**

**History 381(3302), West Africa Since 1800**

**History 382, History of Southern Africa**

**History 385(3303), African Diaspora to 1800**

**History 386(3304), African Diaspora since 1800**

**PolSci 232(2320), African Americans and the Political System**

**PolSci 258(2580) African Politics**

**Psych 392(4392), Selected Topics in Psychology: African American Psychology** (Note: Students should only take Psych 392 when the topic is African American Psychology).

**Sociology 245(3245), Sociology of South Africa**

**Sociology 360(4360), Sociology of Minority Groups**

**Comm 332(3332), Intercultural Communication**

### Minor in Classical Studies

The minor in classical studies is an interdisciplinary course of studies intended to encourage undergraduates in various disciplines to come to a fuller awareness of the cultures of ancient Greece and Rome and of the classical tradition that underlies much of modern Western civilization. In addition to appealing to any students curiosity about the early stages of society in the West, the minor provides an especially valuable supplement to those who are majoring in many liberal arts areas including history, literature, philosophy, foreign languages, and art.

Students pursuing the minor will acquire a foundation in either Greek or Latin. They may choose to use either sequence to fulfill the foreign language requirement in the College of Arts and Sciences.

**Requirements**

Candidates for the minor must complete 19 credit hours of course work including:

- Latin 1,
- Latin 2, or
- Ancient Greek 1,
- Ancient Greek 2,
- and three courses from the following list and any other course approved by the coordinator:
  - Ancient Greek 101(1001), Intermediate Ancient Greek Language and Culture
  - Art 111(2211), Art and Archeology of the Ancient World
  - Art 112(2212), Greek Art and Archeology
  - Art 113(2213), Roman Art and Archeology
  - Art 212(4411), Topics in Ancient Art and Archeology
  - English 20(1200), Classical Mythology

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**English 120(2200), Classical Literature in Translation**

**History 332(3081), Rome: The Republic and Empire**

**Interdisciplinary 200, Special Topics in Classical Studies**

**Latin 101(1001), Intermediate Latin Language and Culture**

**Philosophy 101(3301), Ancient Philosophy**

**Philosophy 302(4402), Aristotle**

**Philosophy 304(4401), Plato**

### Minor in Legal Studies

The minor in legal studies is open to all undergraduate students at UM-St. Louis, whatever their major field. It offers a secondary field of concentration in one of the most important areas of social life. Students may use the minor as a complement to their major, as an additional qualification for career opportunities, or as general education.

This interdisciplinary minor coordinates liberal arts courses related to law. A faculty member in Legal Studies will advise students and will work with their major advisers in planning appropriate courses.

**Candidates must take:**

**Interdisciplinary 20 (1200), Foundations of Law: An Introduction to Legal Studies (crosslisted as PolSci 20(1200).**

and five courses from the following list. At least three courses must be taken at the 200 level and above. No more than two courses from a single discipline may be included in the minor.

**CCJ 10(1100), Introduction to Criminology and Criminal Justice**

**CCJ 75(1075), Crime and Punishment**

**CCJ 130(1130), Criminal Justice Policy**

**CCJ 226(2226), Law and the Individual**

**CCJ 227(2227), Urban Law: Poverty and the Justice System**

**CCJ 345(3345), Rights of the Offender**

**Comm 355(3355), Media Law and Regulation**

**Econ 219(3650), Law and Economics**

**History 311(3041), Topics in American Constitutional History**

**History 321(3071), Medieval England**

**Philosophy 287, Philosophy of Law**

**Philosophy 387(4487), Seminar in Philosophy of Law**

**PolSci 129(2290), Women and the Law**

**PolSci 226(2260), Law and the Individual (crosslisted as CCJ 226)**

**PolSci 228, Judicial Politics and Policy**

**PolSci 320(3200) Constitutional Law**

**PolSci 321(3210), Civil Liberties**

**PolSci 326(3260), Judicial Decision Making**

**PolSci 329(3290), Studies in Public Law**

**PolSci 385(4850), International Law**

**Sociology 175(2175), Women, Crime, and Society**
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Sociology 278(3278), Sociology of Law

Minor in Public Affairs Journalism
The minor in public affairs journalism provides students with an overview of media operations, including basic writing and reporting skills, as well as a specialty area of advanced study. Ordinarily the specialty or cognate area focuses on a particular field, such as consumer affairs, economics, or political science -- areas in which a journalist would specialize. Cognate areas are proposed by students seeking the minor and approved by a faculty committee.

A minimum grade point average of 2.0 is required in the minor. No more than 3 hours credit may be taken on a satisfactory/unsatisfactory basis. A total of 18 hours is required for the minor. At least 12 of the 18 required hours must be taken at UM-St. Louis.

Requirements

1. 9 hours in communication/English professional training:

   English 214(3140) or Comm 214(3214), News Writing
   English 218(3180), Reporting or Comm 212(2212) Broadcast Writing and Reporting
   English 320(4890), Independent Writing Project, or Comm 394(3394), 396(3396) or 397(3397), Internship

2. 9 hours in public affairs at the 200 level or above

1. Students earning a writing certificate or majoring in communication with a mass communication emphasis must take 15 hours (at least 9 of these at the 200 level or above) in economics, political science, or sociology.

2. Students majoring in economics, political science, or sociology must take 9 hours (in addition to the required English/communication courses) at the 200 level or above in addition to English/communication courses chosen from those listed above and/or in the two cognate areas outside their major (i.e., economics, political science, or sociology).

A list of courses applicable to the minor is available from the coordinator.

Minor in Urban Studies
A minor in urban studies includes 18 hours of course work. Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Special topics courses relevant to urban studies may be included in the minor when approved in advance by the coordinator of the urban studies minor.
Course Descriptions

In addition to regular departmental offerings, the College of Arts and Sciences also offers several interdisciplinary courses, listed below. These courses bring together the resources of two or more disciplines to focus on topics that benefit from being studied from the point of view of more than one discipline. In many cases faculty from several departments teach an interdisciplinary course together, giving students the opportunity to experience faculty dialogue on issues in a cross-disciplinary fashion. Most interdisciplinary courses have no prerequisites. Freshman and sophomore students are especially encouraged to take these courses.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 10, 20, 40, 45(1450), 60(1160), 75(1075), 90*, 91*, 99(1990), 101(1001), 102(2102), 120(1220), 150++, 269(3690)*, 287, 295*, 350++, 351. The following courses fulfill the Humanities breadth of study requirement: 65(1165), 70, 100(1000), 150++, 160, 200, 265(4465), 350++. *These courses may fulfill the Humanities or Social Sciences breadth of study requirements. ++ Depending on topic.

10 The Classical World (3)
A survey of the cultures of ancient Greece and Rome - from the beginning of Hellenic civilization during the second millennium B.C. to the start of the breakup of the Roman Empire in the West. Focuses on various central issues and trends; illustrated primarily by the history, literature, philosophy, and art of the period.

20(1200) Foundations of Law: An Introduction to Legal Studies (3)
(Same as Criminology and Criminal Justice 20(1200) and Political Science 20(1200)). As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

40 The Black World (3)
A survey of the cultural life, historical experience, and contemporary sociopolitical issues facing the black peoples of Africa, the Caribbean, and United States.

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45(1450) Introduction to Labor Studies (3)
(Same as Pol Sci 45(1450)). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and media.

60(1160) Aging in America (3)
(Same as Gerontology 60(1160).) An introduction to the major issues, research, problems, and current service approaches in the study of the aging process. An overview of information useful for students in the arts and sciences, business, education, and nursing schools. This course is primarily for freshmen and sophomores.

65(1165) Photography and Society (3)
(Same as Art and Art History 65(1165).) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art.

70 Introduction to the Study of Religion (3)
The nature of religion and approaches to its study. Examples will be drawn from representative Western and non-Western traditions.

75(1075) Crime and Punishment (3)
(Same as Criminology and Criminal Justice 75 and Sociology 75(1075).) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

90 The Development of American Cultures (3)
An examination of the conflict and amalgamation of diverse cultures in the origins and development of American society. Consideration is given to the emergence of a national political and economic system, national and regional cultures, racial and gender ideology, and sectional conflict. These developments will be examined through their impact on art, literature, religion, music, science, anthropology, architecture, political philosophy, and economic thought.

99(1990) The City (3)
(Same as Criminology and Criminal Justice 99, Political Science 99(1990), and Sociology 99(1990)) Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.
100 (1000) Special Topics (3)
Topics may vary from semester to semester, however, they will all focus in the cultural heritage of Great Britain with material taken from art, theater, literature, and selected topics in philosophy.

101 (1001) Special Topics (3)
Topics may vary from semester to semester, however, material will be selected which will focus in the social, economic, historical or political institution of Great Britain.

101 AIDS: Myths, Threats, and Realities (3)
Issues regarding the AIDS threat are examined, along with their ramifications. Topics include biological aspects of HIV retroviruses, how they are contracted and spread; methods of testing for them; and issues of public health versus individual rights; similarities and differences with past plagues and epidemics; ethical and theological positions; projected and actual effects of AIDS on society including workplace, education, the law, insurance industry, and economy; problems of labeling and deviance, psychological stigma, interpersonal communication and counselor burnout; political responses and the rational promotion of political strategies and policies to control the spread of AIDS.

102 (2102) Women, Gender and Diversity (3)
An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. This course explores issues of power, identity, and relationship in women's lives.

120 (1220) Special Topics in Gerontology (1-3)
(Same as Gerontology 120 (1220).) Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

150 Special Topics in Women's and Gender Studies (3)
An introduction to a particular topic area in women's studies (topics will be announced prior to registration), drawing on the theories and methods of such disciplines as sociology, Psychology, political science, philosophy, art history, and others to examine particular aspects of women's experience in social and cultural life. Course may satisfy the distribution requirement for Humanities or Social Sciences depending on the topic.

160 Monday Noon Cultural Seminar (2)
An interdisciplinary examination of topics in the Humanities. Students will attend the Monday Noon Cultural Series program of the Center for the Humanities each week and meet as a group to explore the nature and background of each presentation, e.g., fiction reading, musical event, presentation of scholarly research in the arts or culture, or social and historical analysis.

200 Special Topics in Classical Studies (3)
Prerequisite: Interdisciplinary 10 or consent of minor coordinator. Selected topics dealing with various aspects (e.g., literature, history, philosophy, politics, sociology, fine arts) of ancient Greece and Rome. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with the consent of the Coordinator for the Minor in Classical Studies. Readings will be in English.

265 (4465) Topics in Photographic Studies (3)
(Same as Art and Art History 265(4465). Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

269 (3690) The Marxist Heritage (3)
(Same as Philosophy 269(3690), and PolSci269(3690). Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

287 The World Food Problem (3)
Prerequisite: Econ 40(1000) or 51(1001), or consent of instructor. An introduction to the world's food problem and an examination of the economic and political problems in distributing basic food-stuffs among the earth's people.

295 Issues in American Culture (3)
Prerequisites: Interdisciplinary 9(1990) or consent of instructor. An examination of specific topics in American culture from the point of view of a number of disciplines. This exit seminar for the American Studies minor may be repeated for credit.

350 Topics in Women's and Gender Studies (3)
Prerequisite: Junior standing and one Women's and Gender Studies course. This course will focus on a particular aspect of women's conditions (to be announced prior to registration) and will draw upon recent theoretical and methodological work in the field of women's and gender studies from a variety of disciplines. Course may satisfy the distribution requirement for Humanities or Social Sciences depending on the topic.

351 Theories of Feminism (3)
Prerequisites: Junior standing and one Women's and Gender Studies course preferably ID 50' or 102(2102) or consent of instructor. An analysis of contemporary theories of feminism, including liberal, radical, socialist, and women-of-color perspectives, and an exploration of the underpinnings of feminist theory in major systems of thought.
352 Independent Studies in Women's and Gender Studies (1-3)
Prerequisite: Junior standing; two courses in Women's and Gender Studies, including ID 50 or 102(2102); and consent of the instructor and the Institute. Directed independent work in selected Women's and Gender Studies topics through readings, research, reports and/or conferences. Course may satisfy the distribution requirement for the Humanities, Social Sciences or Math/Science depending on topic.

353 Internship in Women's and Gender Studies (3)
Prerequisite: 90 hours. 2.5 GPA, 12 WGS hrs. Internship would place the student in a profit or nonprofit setting for approximately ten hours a week in an internship structured and supervised by the Institute; consent of Director required; may include biweekly seminar. Student must present appropriate course background for either option, plus the above pre/co-requisites.

390 Independent Studies in Photographic Studies (1-10)
Prerequisites: Twelve hours completed in photographic studies. Integrated individual projects conducted under photographic studies committee and departmental faculty supervision.

401 Inquiries in Women's and Gender Studies (3)
Introduces graduate students to the field of women's studies, with particular focus on its vocabulary and evolution, its location within and relationship to the academy, and its predominant theoretical and methodological frameworks. Specific content will vary year to year. Strongly encouraged for graduate students in Women's and Gender Studies.

450 Seminar in Women's and Gender Studies (3)
Critical examination of advanced topics in the humanities, social sciences, or natural sciences from women's and gender studies perspectives. May be taken more than once provided that the subject matter is different each time the seminar is taken.

452 Special Readings in Women's Studies/Gender Studies (3)
Prerequisite: Admission to Graduate Certificate program and consent of instructor. Directed independent work on a selected Women's and Gender Studies topic through readings, research, reports, and/or conferences.
Certificate Programs

The University College offers a wide variety of certificates, which provide our students the opportunity to develop expertise in subjects other than their major field. These programs usually combine course offerings from several departments so the subject is examined from a multidisciplinary approach. While most persons who earn certificates do so in the process of completing their undergraduate degree, a certificate may be completed by non-degree seeking students.

Students wishing to earn a graduate certificate must seek formal admission to the Graduate School.

To find the descriptions of the courses within a specific certificate program, refer to the individual department from which the courses are drawn. Following is a list of certificate programs offered by the University, with only the program requirements listed for those which are interdisciplinary.

**Graduate Certificate Programs:**

**Undergraduate Certificate Programs:**

**Africana Studies Certificate**
Students seeking the Africana studies certificate have two options: an emphasis in African studies and an emphasis in African diaspora studies.

I. African Studies:
1) At least one course in two of the following four areas for a total of 9 hours:

Area 1: Anthropology
124(2124), Cultures of Africa
Area 2: Art and Art History
117(1105), African Art

II. African Diaspora Studies
1) Interdisciplinary 40: The Black World (3)

2) One course from each of the following areas, a total of 6 hours:

Area 1: Anthropology
234(3234), Cultural Continuity and Change in Sub-Saharan Africa
235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

Area 2: Art and Art History
*215(4402), Topics in Tribal Arts

* Note: Students should take Art History 215(4402) only when the topic is appropriate to Africa.

Area 3: History
380(3301), West Africa to 1800
381(3302), West Africa Since 1800

Area 4: Sociology
245(3245), Sociology of South Africa

3) An independent study course (3 hours) in which a research paper will be written on some aspect of African Studies

**African Studies Certificate**
Students seeking the Africana studies certificate have two options: an emphasis in African studies and an emphasis in African diaspora studies.

I. African Studies:
1) At least one course in two of the following four areas for a total of 9 hours:

Area 1: Anthropology
124(2124), Cultures of Africa
Area 2: Art and Art History
117(1105), African Art

Area 3: History
81(1061), African Civilization to 1800
82(1062), African Civilization Since 1800

Area 4: Political Science
258(2580), African Politics

2) One course in two of the following areas, a total of 6 hours:

Area 1: Anthropology
234(3234), Cultural Continuity and Change in Sub-Saharan Africa
235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

Area 2: Art and Art History
*215(4402), Topics in Tribal Arts

* Note: Students should take Art History 215(4402) only when the topic is appropriate to Africa.

Area 3: History
380(3301), West Africa to 1800
381(3302), West Africa Since 1800

Area 4: Sociology
245(3245), Sociology of South Africa

3) An independent study course (3 hours) in which a research paper will be written on some aspect of African Studies

**Africana Studies Certificate**
Students seeking the Africana studies certificate have two options: an emphasis in African studies and an emphasis in African diaspora studies.

I. African Studies:
1) At least one course in two of the following four areas for a total of 9 hours:

Area 1: Anthropology
124(2124), Cultures of Africa
Area 2: Art and Art History
117(1105), African Art
3. At least one course from each of the following areas, a total of 6 hours:

Area 1: Africa
Anthropology  234(3234), Cultural Continuity and Change in Sub-Saharan Africa
235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

Art History  117(1105), African Art History
380(3301), West Africa to 1800
381(3302), West Africa Since 1800

Political Science  258(2580), African Politics
Sociology  245(3245), Sociology of South Africa

Area 2: Diaspora
Communication  332(3332), Intercultural Communication
English  70(1700), African-American Literature
History  319(3050), Topics in African-American History
385(3303), African Diaspora to 1800
386(3304), African Diaspora Since 1800
Music  6(1002), Introduction to African-American Music
Political Science  232(2320), African Americans and the Political System

*Psychology  392(4392), Selected Topics in Psychology: African American Psychology

Sociology  360(4360), Sociology of Minority Groups

* Note: Students should take Psychology 392(4392) only when the African American Psychology topic is offered.

Biochemistry Certificate
(Refer to the Biology section of this Bulletin.)

Biotechnology Certificate
(Refer to the Biology section of this Bulletin.)

Business Administration Certificate
(Refer to the Business Administration section of this Bulletin.)

Conservation Biology Certificate
(Refer to the Biology section of this Bulletin.)

East Asian Studies Certificate
(Refer to the Biology section of this Bulletin.)

College of Arts & Sciences
Certificate Programs

1) First- and second-year Chinese, Japanese, Korean, or other appropriate Asian language (20 hours taken in four semesters).
2) History 61(1041) and History 62(1042), East Asian Civilization
3) One course in three of the following six areas, a total of nine hours:

Area 1: Anthropology
110(2110), Cultures of Asia

Area 2: Art and Art History
107(1109), The Arts of China
108(1110), The Arts of Japan
208(4408), Topics in Asian Art

Area 3: History
361(3101), Modern Japan: 1850 to Present
362(3102), Modern China: 1800 to Present
*393(4004), Senior Seminar
*Note Students should take History 393(4004) only when the topic is appropriate to East Asia.

Area 4 Music
9(1080), Non-Western Music I
10(1090), Non-Western Music II

Area 5: Philosophy
120(1120), Asian Philosophy

Area 6: Political Science
155(2550), East Asian Politics
*359(3590), Studies in Comparative Politics
*388(3890), Studies in International Relations
*Note Students should take PolSci 359(3590) or PolSci 388(3890) only when the specific topic is appropriate.

Electronic Commerce Certificate
(Refer to the Business Administration section of this Bulletin.)

European Studies Certificate

1) Four semesters of college work or the equivalent in a modern European foreign language.
2) History 32(1032), Topics in European Civilization: 1715 to the Present.
3) One course each from at least four of the following eight areas, a total of 12 hours. Students should consult advisers at the Center to determine how these courses can best be arranged to meet their interests.

Area 1: Art and Art History
135(2235), Renaissance Art
145(2245), Baroque Art
235(4435), Topics in Renaissance Art
### Certificate Programs

**College of Arts & Sciences**

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<td>349(3093), Europe, 1950 - Present: Peace and Prosperity</td>
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<td><em>Note: Students should take PolSci 351(4510), 359(3590), or 388(3890) only when the topic is appropriately European.</em>**</td>
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**Forensic Economics Certificate**

(Refer to the Economics section of this Bulletin.)

**Gerontology Certificate**

(Refer to the Graduate School-Gerontology section of this Bulletin.)

**Human Resource Management Certificate**

(Refer to the Business Administration section of this Bulletin.)

**Information Resource Management Certificate**

(Refer to the Business Administration section of this Bulletin.)

**Information Systems Development Certificate**

(Refer to the Business Administration section of this Bulletin.)
International Business Certificate

1) Students must complete a minimum of 12 hours in the Business Internship Program in London or in some other approved overseas study program.
2) One course from Area 1 and one from Area 2, a total of six hours.

Area 1: Business Administration:
316(3780), International Marketing
317(3680), International Management
380(3580), International Finance

Area 2: International Studies:
Anth 238(3238): Culture and Business in East Asia
Econ 230(3300): International Economic Analysis
Econ 231(3301): International Finance
Econ 238(3310): Comparative Economic Systems
Econ 240(3320): Economic Development
PolSci 283(3830): International Political Economy
(Sociology 241(3241): Selected Topics in Macro-sociology/Work and Industry in Japan)
Sociology 354(4354): Sociology of Business and Work Settings

In lieu of a course from Area 2, students may substitute one course (3 hours) at the advanced level of a foreign language. Advanced level is defined as a course beyond the 13 hour introductory language sequence.

3) An independent study course is not required for this certificate option.

Note: Students participating in other approved overseas study programs such as Hogeschool Holland Business School, Ecole Superieure de Commerce de Saint Etienne, or Universtite Jean Moulin, may also qualify to apply 12 credit hours toward the International Business Certificate.

Graduate Certificate in International Studies

A Graduate Certificate in International Studies is a program of study featuring advanced, multidisciplinary course work designed for individuals, including teachers and other professionals, who wish to expand their knowledge and understanding of international and cross-cultural affairs. The Certificate is sponsored by the Center for International Studies, and the Departments of Economics, History, Foreign Languages and Literatures, and Political Science. A broad set of course offerings is available in these and other departments, with the flexibility for students to tailor the program to their particular interests and needs. The program has been developed as a vehicle for bringing together the resources of a distinguished faculty in international studies and for providing an opportunity for further graduate learning.

College of Arts & Sciences
Certificate Programs

Applicants to the Certificate program must meet the general requirements for admission to Graduate School as explained in the graduate study section of this Bulletin. The Certificate is awarded after completion of 18 hours, including a minimum of 12 hours drawn from a list of core courses and an additional six hours selected from a wide variety of offerings in eight different disciplines. No more than 12 hours may be from any one discipline. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the Certificate when appropriate.

Requirements
Students must complete at least 12 hours chosen from the following list of core courses:

Anthropology
425(5428), Peoples and Cultures of Southeast Asia
430(5440), Global Refugee Crisis

Business Administration
416(6580), International Finance, Investment, and Commercial Relations
417(5280), International Business Operations
443(5480), International Accounting

Economics
430(6300), International Trade
431(6301), International Monetary Analysis

History
410(6111), Readings in European History to 1715
415(6112), Readings in European History Since 1715
420(6113), Readings in East Asian History
425(6114), Readings in Latin American History
430(6115), Readings in African History

Political Science
450(6450), Proseminar in Comparative Politics
451(6451), Seminar in Comparative Politics
480(6480), Proseminar in International Relations
481(6481), Seminar in International Relations
488(6488), Studies in International Relations

Sociology
410(5410), Comparative Social Structures

Students may complete an additional six hours chosen from the following:

Business Administration
316(3780), International Marketing
317(3680), International Management
* 380(3580), International Finance

* Note: Students may not count both Bus. Admin. 416(6580) and 380(3580).

Communication
332(3332), Intercultural Communication
354(3354), Comparative Telecommunication Systems
356(3356), International Communication

Criminology and Criminal Justice
305(3305), Comparative Criminology and Criminal Justice

Economics
331(4301), International Economic Analysis: Finance
395(4980), Special Readings
Latin American Studies Certificate
1) Thirteen credit hours or the equivalent in Spanish.

2) Either History 71(1051), Latin American Civilization, or Spanish 211(3211), Hispanic Culture and Civilization: Spanish America.

3) A total of 12 hours from at least three of the following areas:

   Area 1: Anthropology
   134(2134), The Inca, Aztec, and Maya
   145, Indians of South America

   Area 2: Art and Art History
   119(1103), Pre-Columbian Art of Mexico and Central America

   Area 3: History
   371(3201), History of Latin America: To 1808
   372(3202), History of Latin America: Since 1808

   Area 4: Political Science
   253(2530), Political Systems of South America
   254(2540), Political Systems of Mexico, Central America, and the Caribbean
   *359(3590), Studies in Comparative Politics

   *Note Students should take PolSci 359(3590) only when the topic is appropriate to Latin America.

   Area 5: Spanish
   111(2110), Spanish-American Literature in Translation
   211(3211), Hispanic Culture and Civilization: Spanish America
   281(3281), Introduction to Hispanic Literature: Spanish America
   340(4340), Spanish-American Literature of the Nineteenth Century
   341(4341), Modernismo
   345(4345), Spanish-American Literature of the Twentieth Century
   351(4351), Spanish-American Fiction in the Twentieth Century
   360(4360), Spanish-American Poetry from Modernismo to the present

Managerial Economics Certificate
(Refer to the Economics section of this Bulletin.)

Marketing Management Certificate
(Refer to the Business Administration section of this Bulletin.)

Museum Studies Certificate
(Refer to the History section of this Bulletin.)
Non-Profit Organization Management and Leadership Certificate
(Refer to the Graduate School-Public Policy Administration section of this Bulletin.)

Non-Profit Organization Management and Leadership Certificate (Undergraduate)

The university offers an undergraduate certificate program for students who want to become professional staff, board members, or other leaders of nonprofit and voluntary organizations, as well as those who are currently in the field.

The certificate requires the completion of 18 semester hours. Nine of these hours must be the following core courses:
- Political Science 394(3940), same as Sociology or Social Work 308(4940) (3 hours)
- Political Science and Social Work 391A(4911), Management Issues in Nonprofit Organizations: Staff Management Issues
- Political Science and Social Work 391-B(4912), Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations
- Political Science and Social Work 391-C(4913), Management Issues in Nonprofit Organizations: Financial Issues
- Political Science and Social Work 396(4960), American Philanthropy and Nonprofit Resource Development

The remaining 9 hours of electives can be selected from the following courses:
- Business Administration 206(3700), Basic Marketing
- 210(3600), Management and Organizational Behavior
- 309(3621), Human Resource Management
- 311(3611), Advanced Management and Organizational Behavior
- Communication 228(2228), Public Relations Writing (Same as English 228(3280))
- 230(2230), Small Group Communication
- 231(2231), Communication in the Organization
- 240(2240), Persuasive Communication
- 358(3358), Communication in Public Relations
- English 212(3120), Business Writing
- 313(3130), Advanced Business and Technical Writing
- Political Science 342(3420), Public Personnel Management
- 344(3440), Public Budgeting
- Psychology 222 (2222), Group Processes in Organization
- 320(3320), Personnel Assessment

College of Arts & Sciences
Certificate Programs

Social Work
305(3300), Intervention Strategies for Social Work with Organizations and Communities

Sociology
268(3268), The Sociology of Conflict
280(3280), Society, Arts and Technology
312(4312), Sociology of Wealth and Poverty
314(4314), Social Change
336(4336), Organizations and Environments

Photographic Studies Certificate
(Refer to the Art and Art History Section of this Bulletin.)

Psychology – Clinical Respecialization Certificate
(Refer to the Psychology section of this Bulletin.)

Studies in Religions Certificate
A certificate in studies in religions requires the completion of 18 hours with a grade of C or better.

Courses must be chosen from two or more departments (interdisciplinary offerings excluded), and the program must include two or more courses which focus on different major religious traditions. (Courses which fulfill this requirement are marked with an asterisk [*] in the list below.)

In addition, students are encouraged to broaden their understanding of religions and religious experience by enrolling in several courses in which these subjects are studied in philosophical or cultural contexts.

Students must obtain the approval of the coordinator of studies in religions before completing 12 hours toward this certificate.

Requirements
Students must take 18 hours chosen from the following list in accordance with the guidelines above:

Anthropology
244(3244), Religion, Magic, and Science
173(2173), Archaeology and Cultures of the Biblical World

Art
125(2225), Medieval Art
*114(2214), Early Christian Art and Archaeology

English
*13(1130), Topics in Literature
*123(2230), Jewish Literature
*124(2240), Literature of the New Testament
*125(2250), Literature of the Old Testament
*391(4940), Special Topics in Jewish Literature
*395(4950), Special Topics in Literature

History
*252, The World of Islam
*335(3062), History of the Church: The Middle Ages
Music
103(1030), Music in Religion
Philosophy
85(1185), Philosophy of Religion
102(3302), Medieval Philosophy
120(1120), Asian Philosophy
*185(3385), Issues in Philosophy of Religion
385(4485), Topics in Philosophical Theology

Political Science
165(2650), American Political Thought
261(2610), Ancient and Medieval Political Thought
Sociology
264(3264), The Sociology of Religion

Taxation Certificate
(Refer to the Business Administration section of this Bulletin.)

Telecommunications Management Certificate
(Refer to the Business Administration section of this Bulletin.)

Trauma Studies Certificate
(Refer to Psychology section of this Bulletin for Graduate Certificate, Undergraduate information follows.)

Trauma Studies Certificate
The trauma studies certificate is designed for students who are interested in a focused specialty in trauma studies or victim services in addition to their own major. It is appropriate for students in the College of Arts and Sciences or any of the schools of the university. It is particularly appropriate for students wishing to pursue careers in psychology, social work, sociology, criminology, law, public health, or nursing.

Requirements
A student may earn a trauma studies certificate by completing 18 hours with a GPA of 2.0 or better from at least three departments from the following courses:

Students must complete at least 12 hours from the following group:

CCJ
120(1120), Criminal Law
300(4300), Communities and Crime
350(4350), Victimology

Nursing
370(4770), Topics in Nursing (Women at Risk: Women and Safety)

Psychology
232(2232), Psychology of Victims
280(4280), The Psychology of Death and Dying

295(3295), Selected Projects in Field Placement: Helping Victims of Crime (for three credits only toward certificate).
390(3390), Directed Studies, if trauma-related topic (for three credits only toward certificate). Please seek approval of the Coordinator of the Trauma Studies Certificate in advance

Social Work
310(3601), Abused and Neglected Children
322(3602), Child Welfare Practicum Seminar
Sociology
278(3278), Sociology of Law
Only one of the following highly recommended courses may be counted toward the trauma studies certificate:
Psychology 161(2161), Helping Relationships
Social Work 210(3100), Introduction to Interventive Strategies for Social Work Practice

Students may count up to 6 hours from the following group toward the trauma studies certificate:

CCJ
230(2230), Crime Prevention
240(2240), Policing
340(4340), Race, Crime, and Justice (same as Sociology 340)

Political Science
140(2400), Public Administration
242(2420), Introduction to Public Policy
394(4940), Leadership and Management in Nonprofit Organizations (same as Social Work 308 and Sociology 308(3940)

Psychology
160(2160), Social Psychology (same as Sociology 160(2160)
230(2230), Psychology of Women
235(4235), Community Psychology
245(2245), Abnormal Psychology

Social Work
308, Leadership and Management in Nonprofit Organizations (same as PolSci 394(4940) and Sociology 308(4940)
312(4601), Women's Social Issues

Sociology
102(2102), Women, Gender and Diversity
160(2160), Social Psychology (same as Psych 160(2160)

214(3214), Juvenile Delinquency and Youth Crimes
268(3268), The Sociology of Conflict
308(4940), Leadership and Management in Nonprofit Organizations (same as PolSci 394(4940) and Social Work 308)
340(4340) Race, Crime, and Justice (same as CCJ 340)
Special Topics courses relevant to trauma studies may be included in the certificate when approved in advance by the coordinator of the trauma studies certificate.

Tropical Biology and Conservation Certificate
(Refer to the Biology section of this Bulletin.)
Women's and Gender Studies Certificates

Faculty
Joyce Mashaben, Professor of Political Science, Director
Ph.D., Indiana University
Nanora Sweet, Assistant Professor of English, Director*
Ph.D., University of Michigan
Zuleyma Tang Martinez, Professor of Biology
Ph.D., University of California-Berkeley
Carol K. Peck, Professor of Optometry
Ph.D., University of California-Los Angeles
Stephanie Ross, Professor of Philosophy
Ph.D., Harvard University
Jayne Stake, Professor of Psychology
Ph.D., Arizona State University
Diane Touliatos, Professor of Music
Ph.D., Ohio State University
Deborah Aldrich-Watson, Associate Professor of English
Ph.D., Columbia University
Ruth Bohan, Associate Professor of Art History
Ph.D., University of Maryland
Susan Brownell, Associate Professor of Anthropology
Ph.D., University of California, Santa Barbara
Sheilah Clark-Ekong, Associate Professor of Anthropology
Ph.D., University of California, Los Angeles
Margaret Cohen, Associate Professor of Educational Psychology
Ph.D., Washington University
Therese S. Cristiani, Associate Professor of Counseling
Ed.D., Indiana University
Sally Barr Ebest, Associate Professor of English
Ph.D., University of Indiana
Yael Even, Associate Professor of Art
Ph.D., Columbia University
Kathy Gentile, Associate Professor of English*
Ph.D., University of Oregon
Joan Hashimi, Associate Professor of Social Work, Emeritus
Ph.D., University of Illinois-Urbana
Margo-Lea Hurwicz, Associate Professor of Anthropology
Ph.D., University of California-Los Angeles
Barbara Kachur, Associate Professor of English
Ph.D., Ohio State University
Janet Lauritsen, Associate Professor of Criminology and Criminal Justice
Ph.D., University of Illinois-Urbana
Lois Pierce, Professor of Social Work
Ph.D., Washington University
Gerda Ray, Associate Professor of History
Ph.D., University of California-Berkeley
Uma A. Segal, Associate Professor of Social Work
Ph.D., Washington University
Margaret Sherraden, Associate Professor of Social Work
Ph.D., Washington University
Anne Winkler, Associate Professor of Economics
Ph.D., University of Illinois-Urbana

Jean Morgan Zarucchi, Professor of French and Art History
Ph.D., Harvard University
Priscilla Dowden, Assistant Professor of History
Ph.D., Indiana University
Ruth Lyob, Associate Professor of Political Science
Ph.D., University of California, Santa Barbara
Tivoli Majors, Assistant Professor of English
Ph.D., University of Texas at Austin
Jody Miller, Assistant Professor of Criminology and Criminal Justice,
Ph.D., University of Southern California
Laura Westhoff, Assistant Professor of History and Education
Ph.D., Washington University
Virginia Navarro, Associate Professor in Educational Psychology,
Ph.D., Washington University
Ann Steffen, Associate Professor of Psychology
Ph.D., Indiana University
Peggy A. Lambing, Lecturer in Business Administration
M.B.A., University of Missouri-St. Louis
Margaret Phillips, Lecturer in Foreign Languages
Ph.D., Saint Louis University
Beverly Sporleder, Lecturer in Social Work
MSW, Washington University

*Joint appointees in Women's and Gender Studies
The Institute for Women's and Gender Studies draws upon the rich body of interdisciplinary feminist scholarship to investigate emerging theories and research on women and gender. Courses examine women's lives, roles, and contributions among different cultures and times, enabling students to broaden their educational experience and develop new insights into their own lives and aspirations. The program offers both day and evening courses.
The faculty and students in the Institute for Women's and Gender Studies program believe in cooperative education. Classes promote the exchange of knowledge among women and men of different classes, races, sexual orientations, and social conditions.

The Institute for Women's and Gender Studies program offers an undergraduate certificate which is similar to a minor. (For graduate study, see listing for Institute for Women's and Gender Studies Graduate Certificate.) A certificate is meant to supplement a student's traditional academic major, to encourage a reassessment of gender and of women's roles in society, and to facilitate career goals that focus on women's and gender issues. The opportunity to earn a certificate is available to all undergraduates pursuing a degree at UM-St. Louis and to individuals with a bachelor's degree from any university.

Institute for Women's and Gender Studies courses are open to all students, whether or not they are working toward a certificate.

Candidates for the certificate should register with the Institute for Women's and Gender Studies program after
they have taken one or two courses. To register, students should complete the certificate form available from any institute faculty or from the institute office. Students interested in the program should contact the director of the program or any member of the women’s studies faculty.

Requirements
A student must complete 18 hours in Women’s and Gender Studies courses, including:

Interdisciplinary 102(2102), Women, Gender, and Diversity and either a 300-level course in Women’s and Gender Studies or an independent study or internship (3 hours) to be taken in the junior or senior year. Students choosing the independent study option will write a research paper on some aspect of women’s and gender studies.

Also required are four additional courses chosen from the following list. These shall be distributed among at least two of the following areas: social science, humanities, and natural science. They should also be distributed among at least three academic departments. No more than 3 hours may be taken on a satisfactory/unsatisfactory basis.

**Anthropology**
21(1021), The Body in Culture
41(1041), Sex and Gender across Cultures
235(3235), Women in Subsaharan Africa: A Contemporary Perspective

**Art**
276(3376), Women and the Visual Arts

**Biology/Psych**
140, Female Sexuality

**Business**
295, Problems in Management: Women in the Profit Sector

**Comm**
337(3337), Male/Female Communication

**Criminology and Criminal Justice**
325(3325), Gender, Crime, and Justice

**Economics**
262(2410), Economics of Women, Men, and Work

**English**
13(1130), Topics in Literature (when appropriate topic)
280(3800), Topics in Women and Literature
380(4930), Studies in Women and Literature

**History**
007(1004), History of Women in the United States
201(3032), History of Women in Comparative Cultures
300(3000), Selected Topics in History (as appropriate)
315(3031), History of Women in the United States
318(3053), African American Women’s History
390(4001); Directed Readings

**Honors**
200 level Inquiries courses (when appropriate)
300 level Seminars (when appropriate)

**Interdisciplinary**
102(2102), Women, Gender, and Diversity

150, Special Topics in Women’s and Gender Studies
350, Topics in Women’s and Gender Studies
351, Theories of Feminism
352, Independent Studies in Women’s and Gender Studies
353, Internship in Women’s and Gender Studies
Music 108(1080), Women in Music
Nursing 365(4765), Women’s Issues in Health Care

**Philosophy**
153(2253), Philosophy and Feminism
352(4452), Feminism and Science

**Political Science**
129(2290), Women and the Law
190(2900), Studies in Political Science (when appropriate)
238, Women in U.S. Politics
257(3570), Gender, Race, and Public Policy
259(3590), Politics, Leadership, and the Global Gender Gap

**Psychology**
230(2230), Psychology of Women
232(2232), Psychology of Victims
295(3295), Selected Projects in Field Placement (when appropriate)

**Social Work**
312(4601), Women’s Social Issues
320(4800), Supervised Field Experience in Social Work I (when appropriate)
321(4850), Supervised Field Experience in Social Work II (when appropriate)

**Sociology**
100(2100), Women in Contemporary Society
102(2102), Women, Gender, and Diversity
103(2103), Sex Roles in Contemporary Society
175(2175), Women, Crime, and Society

**Institute for Women’s and Gender Studies**

**Certificate-Graduate**
The graduate certificate in the institute for women’s and gender studies is designed for students who wish to receive post-baccalaureate training in women’s studies. This program provides a multidisciplinary course of study for students wishing to specialize in women’s issues. It is appropriate for students in the College of Arts and Sciences or any of the schools of the university.

**Admission Requirements**
Program applicants must have the following:

- Baccalaureate degree.
- 2.75 grade point average.
- Official transcripts of all previous undergraduate/graduate work.
- Two letters of recommendation.

**Certificate Requirements**
A student may earn the graduate certificate in women’s studies by completing a total of 18 hours from the following courses listed (or from additional courses approved by the director for women’s studies). At least
9 hours of course work must be at the 400 level; no more than 6 hours of course work may be Independent Study.

Core Courses
Comm 337(3337), Male/Female Communication
Cas Ed 462(7040), Counseling Women Toward Empowerment
CCJ 325(3225), Gender, Crime, and Justice
CCJ 446(6446), Sex Crime

English
380(4930), Studies in Women and Literature
416(5040), Feminist Critical Theory

History
300(3000), Topics in History (when appropriate)
315(3031), History of Women in the United States
318(3053), African American Women's History
Honors 300 Seminars (when appropriate)

Interdisciplinary
350, Topics in Women's and Gender Studies
351, Theories of Feminism
353, Internship in Women's and Gender Studies
452, Special Readings in Women's and Gender Studies Nursing
365(4765), Women's Issues in Health Care
Psychology
410(7410), Women and Mental Health
418(7418), Human Sexuality
Social Work
312(4601), Women and Social Issues

Other 400 level topics courses as appropriate (e.g., Eng 495(5950); History 405(6102)

Writing Certificates
(Refer to English section for Undergraduate Writing and Writing with Technical Emphasis; and the English and College of Education (Teaching and Learning) section for the Graduate Certificate in the Teaching of Writing. Students at the University of Missouri-St. Louis may develop preprofessional study programs from the university's academic offerings in architecture, engineering, dentistry, journalism, law, medicine, optometry, or pharmacy. With early and careful advising, students may develop a two-year study program in preparation for transfer into a professional program in the junior year, or they may select a major field of study and related area courses which provide strong undergraduate preparation for graduate professional study.

Students should seek preprofessional faculty advisers in their interest area early in their academic careers to ensure development of sound, comprehensive study programs which fulfill the admission requirements of the professional program to which they wish to apply.

The following information on preprofessional study at UM-St. Louis is provided to give students minimal guidelines and assistance in planning a program.

Preprofessional Programs

Pre-Architecture
The Department of Art and Art History sponsors the 3+4 Program for the School of Architecture at Washington University. A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate with a bachelor of arts degree in art history from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:
1) The student has completed all general education requirements and all requirements for the art history major and lacks only the total hours (electives) necessary for a degree. (The courses at Washington University will fulfill all remaining courses.)
2) A student who has not completed required courses for the art history degree must remedy the deficiency with courses taken at the UM-St. Louis within three years of entering the professional school. At the time of graduation, the student must remain in good standing in the professional school or have successfully graduated from professional school.
3) A student who has not completed all the courses required for the art history major may, if the art and art history department at UM-St. Louis approves, substitute up to six hours of appropriate course work from the professional school.

The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure. For more information on admission requirements, please contact the College of Arts and Sciences at 516-5501, 303 Lucas Hall.

Pre-Engineering
The Joint Undergraduate Engineering Program of the University of Missouri-St. Louis and Washington University was established in 1993. It allows UM-St. Louis to offer complete bachelor of science degree programs in mechanical, electrical and civil engineering.

Students who enter the joint program take the pre-engineering half of their course work on the campus of UM-St. Louis. The remaining half of their degree programs, consisting of upper-level engineering courses and laboratories, is taken on the campus of Washington University and taught by Washington University engineering faculty members. The two campuses are separated by a driving time of about 15 minutes.

The UM-St. Louis pre-engineering program provides a solid base in mathematics, physics, chemistry, and introductory engineering subjects. Students completing the
pre-engineering program will be well prepared for transferring to engineering schools throughout the United States, including UM-Columbia, UM-Rolla, Washington University, and SIU-Edwardsville, in addition to continuing their education and earning their engineering degrees at UM-St. Louis.

Admission Requirements
In addition to the general admission requirements, prospective undergraduate engineering and pre-engineering students may be required to take a mathematics placement test, given at UM-St. Louis, the semester before enrolling.

Although there is no required pattern of high-school units for admission to the undergraduate engineering or pre-engineering programs, students are urged to complete at least four units of mathematics, including units in algebra (excluding general mathematics) and trigonometry. Calculus, if available, is also strongly recommended.

The following indicates pre-engineering course work required for students planning to pursue a bachelor of science degree in engineering at UM-St. Louis through the joint program with Washington University.

Math
80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
202(2020), Introduction to Differential Equations

Chemistry
11(1111), Introductory Chemistry I
12(1121), Introductory Chemistry II

Physics
11(1011), Physics: Mechanics and Heat
12(1012), Physics: Electricity, Magnetism, and Optics

Introductory Engineering
144(2310), Statics
145(2320), Dynamics

Humanities, Social Sciences, and English Composition

English
10(1100), Freshman Composition

Humanities Electives (three courses)
Social Sciences Electives (three courses)

Students planning to earn a bachelor of science degree in engineering at UM-St. Louis should choose humanities and social sciences electives to meet both the UM-St. Louis general education requirements and the humanities and social sciences requirements of the Joint Undergraduate Engineering Program. In particular:

- A course in American history or government, or in Missouri history or government, must be included.
- The cultural diversity requirement must be fulfilled.
- At least 8 credit hours must be in one department or area within humanities or social sciences; of these 8 credit hours, at least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.

Some courses that fulfill the humanities or social sciences breadth of study requirement do not count as humanities and social sciences electives; an example would be a statistics course taught in economics or Psychology.

For further information about undergraduate engineering and pre-engineering programs at UM-St. Louis, please contact the UM-St. Louis/Washington University Joint Undergraduate Engineering Program at 228 Benton Hall, 516-6800.

Prejournalism
Students wishing to pursue a journalism degree should review the entrance requirements of the schools they would like to attend for information on suggested prejournalism courses of study.

Students seeking a journalism degree from the University of Missouri must complete their junior and senior years at the School of Journalism, University of Missouri-Columbia. For admission, students must present to the UMC School of Journalism 60 acceptable credit hours. Admission is by sequence. Sequences include advertising, broadcast news, magazine, news-editorial, and photo journalism.

Required Courses
The following studies are required for admission to the School of Journalism:

English Composition: Students must complete at least the second course in an English composition sequence with a grade of B or higher. If a grade of C is received, the student must pass the Missouri College English Test on the MU campus. It is not possible to "test out" of this requirement.

Math: Students must complete College Algebra with a grade of C or higher.

Foreign Language: Four years of high school work in one foreign language or 12-13 hours of college work in one foreign language.

Science: Math 31(1310), Elementary Statistics plus 6 hours from biology, chemistry, astronomy, geology, physics, or above college algebra-level math. One course must include a lab. Please note: college algebra is the prerequisite course for statistics.

Science Electives: Five or 6 additional hours in behavioral, biological, physical or mathematical science from the following areas: anthropology, astronomy, biology, chemistry, geology, math (above college algebra-level), physics, Psychology, or sociology.

Social Science: Nine hours to include American history from the beginning to present day and American government/introduction to political science plus 3 hours in microeconomics. Please note: advertising majors must complete both microeconomics and macroeconomics.
Humanistic Studies: Three hours American or British literature plus at least 5 hours from 2 of the following areas: history or appreciation of art or music, philosophy, humanities, religious studies, non-U.S. civilization or classical studies, history or appreciation of theater.

In addition, word processing skills are required (40 words per minute).

Nontransferable courses at the School of Journalism are basic military science, basic physical education, business education such as typing or shorthand, journalism or mass communication, advertising, public relations, photography, and no more than 3 hours maximum of applied music, dance, acting, or studio art. Also, not transferable are industrial arts, orientation, and remedial courses.

The school accepts CLEP subject exams only, Advanced Placement Program (AP) or advanced standing. The school will not accept credit by exam to fulfill the English composition admission requirement. Credit should be referred for review.

Students are required to take two journalism courses at UMC prior to admission to the school (minimum 2.75 GPA required). The English composition requirement must be satisfied prior to enrollment in any journalism course.

For advisement and information, contact the College of Arts and Sciences, 303 Lucas Hall, telephone 516-5501.

Prelaw

Students planning to attend law school must pursue an undergraduate degree of their choice. There is no such thing as a prelaw major. Law schools encourage students to pursue a course of study that includes a broad liberal arts background. The prelaw advisor will assist students in choosing courses that will enhance their analytical and writing skills.

English language and literature courses are virtually indispensable. An awareness of the institutional processes of government obtained through study in political science is needed. Since law is inseparable from historical experience, an acquaintance with American history is important. Students should acquire a knowledge of macro- and microeconomics. Statistics, accounting, and computer science are valuable in understanding special legal subjects and the practice of law.

The University of Missouri has law schools at Columbia and Kansas City. University of Missouri-St. Louis students will find everything needed in planning an undergraduate program, preparing for the LSAT, and applying to law school in the office of the prelaw adviser. Students should contact the prelaw adviser through the College of Arts and Sciences, 303 Lucas Hall, 516-5501, early in their undergraduate studies.

College of Arts & Sciences
Certificate Programs

Premedical Sciences

Students wishing to enter medical, dental, optometry, or veterinary medicine schools should pursue the B.A. or B.S. degrees with majors in the disciplines of their choice, but they should take whatever additional courses may be necessary for admission to the professional school.

Since medical school admission requirements vary, students are urged to consult the catalogs of the schools to which they intend to apply. Updated information may be found in Medical School Admission Requirements (United States and Canada) for the current year, available from the Association of American Medical Colleges 2450 N. Street, N.W.

Washington, DC 20037-1126

A copy is available for student use at the reference desk of the Thomas Jefferson Library. Students may also visit a Web site at www.aam.org.

Suggested Courses

Many medical schools recommend the following undergraduate courses:

**Biology:** Biology 11(1811), Introductory Biology I; Biology 12(1821), Introductory Biology II; Biology 224(2012), Genetics; and additional courses in molecular and/or cell biology.

**Chemistry:** Chemistry 11(1111), Introductory Chemistry I; Chemistry 12(1121), Introductory Chemistry II; Chemistry 261(2612), Structural Organic Chemistry; Chemistry 262(2622), Organic Reactions; Chemistry 263(2633), Techniques of Organic Chemistry; and additional courses in organic chemistry and quantitative analysis.

**Mathematics:** Students should take courses at least through calculus, as appropriate for the major degree.

**Physics:** 8 credit hours or as appropriate for the degree chosen.

Since students are not confirmed for admission to professional schools until the science requirements for admission are fulfilled, students should meet the science requirements before the end of the junior year. To complete these requirements in time, premedical students should take Chemistry 11(1111) and 12(1112), Introductory Chemistry I and II, during the freshman year.

Students also should take the required national standardized examination before or during the junior year as is appropriate for the exam; the Medical College Admission Test for premed students; the Veterinary Medical Aptitude Test for prevet students; the Dental Aptitude Test for predent students; and the Optometry Admission Test for pre-optometry students.
College of Arts & Sciences
Certificate Programs

Each year the number of applicants to health profession schools exceeds the number of available places. Students, therefore, are encouraged to have alternative plans should they not gain entrance. Pharmacy, nursing, and laboratory technology may be considered as alternative fields.

For further information, testing dates, or premedical advising, contact the pre-health professions adviser through the College of Arts and Sciences, 303 Lucas Hall, 516-5501.

Pre-Optometry
The University of Missouri-St. Louis offers a four-year program of study leading to the doctor of optometry degree; this professional degree is administered by the School of Optometry. It is one of only 17 schools of optometry in the United States and the only one in the state of Missouri.

Because the University offers the doctor of optometry degree, it is an ideal institution for pre-optometry education. There are two distinct programs available to UM-St. Louis pre-optometry students:

1. The Department of Biology sponsors a 3+4 Program for the UM-St. Louis School of Optometry. In this program, a student may be admitted to the School of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when the student satisfactorily completes the first year of the professional program. One or more of the following conditions must be met in order to qualify for the undergraduate degree. 1) All general education requirements and all requirements for the biology major, except electives, must be completed. 2) Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the School of Optometry. 3) Up to 6 hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology. For more information about the 3+4 program, contact the Department of Biology, 516-6200.

2. The Pierre Laclede Honors College and the School of Optometry offer the Scholars Program; this program allows a student to complete both the undergraduate and doctor of optometry degrees in seven years. To qualify for this program, a student must be a senior in high school; scored a minimum composite of 29 on the ACT; and be accepted to the UM-St. Louis Pierre Laclede Honors College Program. For more information about the Scholars Program, contact the Pierre Laclede Honors College, 516-6870.

Prepharmacy
Admission to a school of pharmacy usually requires one to two years of college work in specified areas. Most colleges of pharmacy recommend the 1+4 plan which includes one year of college work followed by four years of professional courses in the college of pharmacy. In some cases the old 2+3 program is used. Since entrance requirements vary, students should consult the catalog of the college to which they intend to apply.

A typical one-year sequence for prepharmacy students which meets the admission requirements of the School of Pharmacy at the University of Missouri-Kansas City and also those of the St. Louis College of Pharmacy is as follows:

Freshman Year:
First Semester (15 Hours)
Biology 11(1811), Introductory Biology I (At UMKC, Physics 11(1011), Basic Physics, is preferred.)
Chemistry 11(1111), Introductory Chemistry I
Math 30(1310), College Algebra, and Math 35(1035), Trigonometry (At UMKC mathematics through survey calculus, Math 100(1100), is preferred.)

Second Semester (16 hours)
Biology 12(1821), Introductory Biology II
Chemistry 12(1121), Introductory Chemistry II
Literature: Any 3-hour course
English 10(1100), Freshman Composition

For students pursuing a two-year prepharmacy sequence, it is recommended they continue with the following course work:

Sophomore Year
First Semester (16 hours)
Math 100(1100), Basic Calculus
Chemistry 261(2612), Structural Organic Chemistry
Literature: Any 3-hour course
Physics 11(1011), Basic Physics
Elective*: One 3-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

Second Semester (15 hours)
Biology: One biology elective
Chemistry 262(2622), Organic Reactions
Chemistry 263(2633), Techniques of Organic Chemistry
Physics 12(1012), Basic Physics
Elective*: One 3-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

For additional information and prepharmacy advising, contact the pre-health professions adviser, through the College.
College of Business Administration
College of Business Administration

Faculty

Douglas E. Durand, Professor*; Dean
Ph.D., Washington University
John J. Anderson, C.P.A., C.M.A., Professor*; Associate Dean
Ph.D., University of Wisconsin-Madison
David R. Ganz, Assistant Professor; Associate Dean and Director of Undergraduate Studies in Business
M.S. in C, Saint Louis University
Albert P. Ameiss, Professor Emeritus
Ph.D., Saint Louis University
Nasser Arshadi, Professor*, Vice Chancellor for Research
Ph.D., University of Nebraska
Howard B. Baltz, Professor Emeritus
Ph.D., Oklahoma State University
Allan Bird, Professor*
Ph.D., University of Oregon
James A. Breaugh, Professor*; Coordinator of Management & Organizational Behavior
Ph.D., Ohio State University
James F. Campbell, Professor*
Ph.D., University of California, Berkeley
William P. Dommermuth, Professor Emeritus
Ph.D., Georgia State University
Hung-Gay Fung, Professor*
Ph.D., Georgia State University
Michael M. Harris, Professor*
Ph.D., University of Illinois-Chicago
Marius A. Janson, Professor*; Coordinator of Information Systems
Ph.D., University of Minnesota
Kailash Joshi, Professor*
Ph.D., Indiana University
Sioma Kagan, Professor Emeritus; Diplom-Ingenieur
Ph.D., Columbia University
Edward C. Lawrence, Professor*; Coordinator of Finance
Ph.D., Pennsylvania State University
Joseph S. Martinich, Professor*
Ph.D., Northwestern University
Ray Mundy, Professor*; Director, Center for Transportation Studies
Ph.D., Pennsylvania State University
Robert M. Nauss, Professor*; Coordinator of Logistics and Operations Management
Ph.D., University of California, Los Angeles
David Ricks, Professor*
Ph.D., Indiana University
David Ronen, Professor*
Ph.D., Ohio State University
Rajiv Sabherwal, Professor*
Ph.D., University of Pittsburgh
Vicki Sauter, Professor*
Ph.D., Northwestern University

L. Douglas Smith, Professor*; Director, Center for Business and Industrial Studies
Ph.D., University of Minnesota
Robert S. Stich, Professor Emeritus
Ph.D., New York University
Fred J. Thumin, Professor Emeritus; Diplomate, Industrial and Organizational Psychology
Ph.D., Washington University
Donald H. Driemeier, Associate Professor*; Deputy to the Chancellor
D.B.A., Washington University
Michael T. Elliott, Associate Professor*
D.B.A., Mississippi State University
Thomas H. Eysell, Associate Professor*, Director of Graduate Studies in Business
Ph.D., Texas A & M
Timothy A. Farmer, C.P.A., Associate Professor*
Ph.D., Ohio State University
D'Anne G. Hancock, Associate Professor*
Ph.D., University of New Orleans
Julius H. Johnson, Jr., Associate Professor*
Ph.D., George Washington University
Charles R. Kuehl, Associate Professor*; Director of Continuing Education & Outreach-Business
Ph.D., University of Iowa
Donald R. Kummer, Associate Professor*
Ph.D., University of Oregon
Mary Lacity, Associate Professor*
Ph.D., University of Houston
Haim Mano, Associate Professor*; Coordinator of Marketing
Ph.D., University of Chicago
Mary Beth Mohrman, Associate Professor*, Coordinator of Accounting
Ph.D., Washington University
R. Frank Page, C.P.A., Associate Professor Emeritus
Ph.D., University of Illinois
Paul S. Speck, Associate Professor*
Ph.D., Texas Tech University
Ashok Subramanian, Associate Professor*
Ph.D., University of Houston
George C. Witteried, Associate Professor Emeritus
M.B.A., J.D., Northwestern University
Deborah B. Balser, Assistant Professor*
Ph.D., Cornell University
Greg Geisler, Assistant Professor*
Ph.D., University of North Carolina at Chapel Hill
Thomas Kozlofski, Assistant Professor*
Ph.D., Drexel University
James M. Krueger, C.P.A., Assistant Professor*; Vice Chancellor for Managerial & Technological Services
D.B.A., Indiana University
Dinesh Mirchandani, Assistant Professor*
Ph.D., University of Kentucky
Stephen R. Moehrle, C.P.A., Assistant Professor*
Ph.D., Indiana University
International is the only internationally recognized accrediting agency for business and accounting programs. In 1995, the College of Business Administration received reaccreditation of its business programs, both undergraduate and graduate; and initial separate accreditation of its undergraduate and graduate accounting programs.

**Mission** The mission of the College reflects the traditional academic activities of teaching, research and service. Within the resource and strategic constraints placed on the College by the campus and the UM system, the College seeks to:

- provide students with a high quality business education that prepares them to become productive contributors as leaders in both private and public sector organizations;
- conduct research, the results of which extend and expand existing levels of knowledge and understanding relating to the operation, administration, and social responsibilities of enterprises in both the private and public sectors;
- serve the university, the citizens of Missouri, and the St. Louis business community through useful outreach programs and through effective interactions with the College's faculty and staff.

**College of Business Administration Programs**

### Undergraduate Degrees

Bachelor of Science in Accounting  
Bachelor of Science in Business Administration  
(with possible emphasis areas in)  
- Finance  
- International Business  
- Logistics and Operations Management  
- Management and Organizational Behavior  
- Marketing  
- Bachelor of Science in Management Information Systems

### Undergraduate Minors

- Accounting  
- Employee Training and Development (see Evening College)  
- Finance  
- General Business  
- International Business  
- Logistics and Operations Management  
- Management Information Systems  
- Management and Organizational Behavior  
- Marketing

**Undergraduate Certificate**  
International Business Certificate (see International Studies)

### Graduate Degrees

- Master of Accounting  
- Auditing/Systems  
- Corporate Accounting  
- Public Sector Accounting
Taxation

Master of Business Administration
  Accounting
  Finance
  Logistics and Supply Chain Management
  Management and Organizational Behavior
  Operations Management
  Marketing

Master of Science in Management Information Systems

Ph.D. in Business Administration
  Information Systems

Graduate Certificates
  Graduate Certificate Program in Business Administration
  Graduate Certificate in Electronic Commerce
  Graduate Certificate in Human Resources Management
  Graduate Certificate in Information Resource Management
  Graduate Certificate in Information Systems Development
  Graduate Certificate in Marketing Management Graduate Certificate in Taxation
  Graduate Certificate in Telecommunications Management

Undergraduate Programs
Detailed information concerning all degree requirements can be found by visiting our web site, “Alphie” at http://www.umsl.edu/divisions/business/undergrad_advising/.

Lower Division Requirements—All degrees—all students

Each student must complete a 42-hour block of general education coursework fulfilling six goals—three skill goals and three knowledge goals. The skill goals include two courses in communicating, one course in managing information and one course in valuing. The knowledge goals include three courses in the social sciences, three courses in the humanities, and four courses in the combined areas of mathematics and science. All courses must be selected from a list approved by the Faculty Senate of the campus. In many instances courses required by the College of Business Administration for each of its degree programs will satisfy a segment of the general education requirements. A list of courses which fulfill the humanities, social science, and math/science knowledge goals can be obtained in the Office of Undergraduate Academic Advising in the College of Business Administration, 487 Social Sciences and Business (SSB) building; or by visiting our web site.

Lower Division Non-Business Course Requirements

Students pursuing any undergraduate business degree must complete the following non-business courses:

English 10 (1100) Freshmen Composition (communicating skill goal)
One additional “communicating skills goal” course
Mathematics 30 (1030) College Algebra (math/science knowledge goal)
Mathematics 100 (1100) Basic Calculus (math/science knowledge goal)
Mathematics 105 (1105) Basic Probability and Statistics (math/science knowledge goal)
Economics 51 (1001) Principles of Microeconomics (valuing skill goal and social science knowledge goal)
Economics 52 (1002) Principles of Macroeconomics (social science knowledge goal)
A science lecture course (math/science knowledge goal)
A cultural diversity course
A course required by the State of Missouri
Three humanities courses (humanities knowledge goal)
Two social science courses (in addition to those above)

Lower Division Business Course Requirements

Business Administration (BA)
103 (1800) Computers and Information Systems (managing information skill goal)
140 (2400) Fundamentals of Financial Accounting
145 (2410) Managerial Accounting
156 (2900) Legal Environment of Business

Upper Division Requirements—all degrees—all students

Upper Division Non-Business Requirement

English 212 (3120) Business Writing, with a minimum grade of C-

Upper Division Non-Business or Business Requirement

Two global awareness courses selected from an approved list maintained in the Office of Undergraduate Academic Advising in the College of Business Administration; also available on our web site

Upper Division Business Requirements

Business Administration (BA)
204 (3500) Financial Management
206 (3700) Basic Marketing
210 (3600) Management and Organizational Behavior
250 (3300) Business Statistics
252 (3320) Introduction to Operations Management
391 (4219) Strategic Management
A minimum of 18 additional hours of upper division approved business electives

Assessment—All degrees—all students

The Academic Profile Test is administered to all entering freshmen and to all graduating seniors.
Business Administration 390 (4220), Business Assessment Testing, is administered to all graduating seniors. A "Satisfactory" grade is required for graduation.

General Degree Requirements—all degrees—all students

- Students must complete a minimum of 120 credit hours for any baccalaureate degree from the College of Business Administration
- Students must complete a minimum of 60 non-business hours
- Students must complete a minimum of 48 hours in business courses
- Students must complete a minimum of 36 hours of upper division business courses
- Students are limited to a maximum of 24 credit hours in any single business discipline beyond core courses
- Students are limited to a maximum of 78 credit hours in business and economics combined
- Students must attain a minimum campus grade point average of 2.0. Grade modification may be used in calculating this grade point average
- Students must attain a minimum business grade point average of 2.0. Grade modification may not be used in calculating this grade point average
- Students seeking an emphasis area or major within the Bachelor of Science in Business Administration degree, Bachelor of Science in Accounting degree, and/or Bachelor of Science in Management Information Systems degree must attain a minimum grade point average of 2.0 in the emphasis/major. Grade modification may not be used in calculating this grade point average
- A minimum grade of C- is required for each course in the business core (except BA 391); for each course which serves as a prerequisite for another course; and for each course in an emphasis area and/or major
- Of the maximum of 18 hours which may be taken on a satisfactory/unsatisfactory graded basis, only 9 hours can be in business, and those are restricted to electives—courses beyond the required business core courses
- Business course prerequisites are enforced by the College of Business Administration and include a minimum campus grade point average of 2.0 as a condition for taking any upper division business course
- Emphasis Areas may be added for up to two years following degree completion
- Each additional degree from the College of Business Administration requires 15 unique hours taken at UM-St. Louis subsequent to completion of the prior business degree

Transfer Issues

- Students must complete a minimum of 60 hours from four year, baccalaureate degree granting colleges/universities
- A minimum of 50% of all business course work must be completed at UM-St. Louis
- Students must complete a minimum of 21 graded hours in business courses
- Individuals must complete their last 30 hours in residence at UM-St. Louis
- A minimum of 56 graded hours at UM-St. Louis are required to qualify for consideration for Latin Honors
- Students seeking to use a lower division course to satisfy an upper division business requirement must validate the course being transferred. If successfully validated, the transfer course will waive the need to take the upper division equivalent course at UM-St. Louis, but the course transferred will be counted as lower division; it will not count toward the 36 upper division hours required in business
- Completion of a 42-hour general education block, which is certified by sending instituting as fulfilling its general education requirement, will be viewed as fulfilling UM-St. Louis’ general education. However, all lower division courses required as part of a degree program at UM-St. Louis must be completed

Requirements Unique to Specific Degrees in the College of Business Administration

Bachelor of Science in Accounting Degree

Mission The Accounting Area provides a rigorous educational experience to individuals of diverse ethnic and academic backgrounds as a framework for life-long learning. Up-to-date curricula in bachelors and masters degree programs combine accounting principles and technology with a solid foundation in the social, organizational, and ethical responsibilities expected of an accounting professional in private practice, industry, and not-for-profit organizations. A faculty of full-time scholars provides high-quality teaching, basic and applied research, and service to the professional and academic communities.

Lower or Upper Division Non Accounting Courses Required

One of:
Communication 30(1030), Interpersonal Communication I or Communication 40(1040), Introduction to Public Speaking
or
Business Administration 205(3100), Contemporary
Business Communications
and one of:
Philosophy 30(1130), Approaches to Ethics
or
Philosophy 154(2254), Business Ethics

Upper Division Accounting Courses Required

Business Administration (BA)
340A (3401), Financial Accounting and Reporting I
340B (3402), Financial Accounting and Reporting II
345(3411), Cost Accounting
347(3441), Income Taxes
and one of either
344(3421), Accounting Information Systems and
Spreadsheet Applications
or
215(3810), Information Systems Analysis

See the Office of Undergraduate Academic Advising for
alternatives to satisfy the State of Missouri’s requirement
of 150 hours for eligibility to take the Uniform Certified
Public Accounting Examination.

Bachelor of Science in Business Administration Degree

General Business

For those undecided regarding a specific emphasis area, a
general business degree option is available. Students must
complete a minimum of 18 hours of upper division
approved business electives (see comprehensive list of
business courses in the course descriptions section of this
publication)

Emphasis in Finance

Finance is a multidisciplinary field that combines various
concepts from management, economics and accounting
with financial techniques to make sound business decisions
and solve problems.

A minimum of 15 hours of upper division finance electives
must be selected from the following

Business Administration (BA)
207(3525), Practicum in Investments
295B(3595), Business Administration Problems – Finance
296(3599), Independent Study (approved)
327(3590), Practicum in Finance
328(3564), Estate Planning and Trusts
332(3561), Principles of Insurance
333(3562), Life Insurance and Employee Benefits
334(3520), Investments
335(3521), Financial Risk Management
336(3502), Treasury Management
337(3542), Principles of Real Estate
338(3560), Practice of Personal Financial Planning
339(3563), Retirement Planning and Employee Benefits
350(3501), Financial Policies
351(3502), Computer Applications in Finance
352(3522), Security Analysis
355(3540), Financial Services Industry and Instruments
356(3541), Commercial Bank Management
380(3580), International Finance
395B(3598), Business Administration Seminar – Finance

Track Certification

Students may combine selected courses from the list
above, and other specified upper division business
electives, to fulfill a designated track with dual objectives
of acquiring in depth knowledge, and to prepare and be
eligible for various professional certification examinations.
Detailed information is available in the Office of
Undergraduate Academic Advising. The specific tracks
available include

• Corporate Finance
• Financial Institutions and Services
• Investment and Portfolio Management
• Financial Planning
• Insurance

Emphasis in International Business

National markets are becoming increasingly integrated.
The study of international business focuses on
understanding the forces behind this globalization of
markets and production.

The following courses are required of all individuals
seeking an emphasis in International Business

Business Administration (BA)
314(3682), Managing the Global Workforce
316(3780), International Marketing
380(3580), International Finance
393(4689), International Strategic Management

Proficiency in a foreign language of international
commerce (determined by the College of Business
Administration) must be demonstrated—13 credit hours in
one approved language or satisfactory performance on the
UM-St. Louis foreign language proficiency examination

An international experience is encouraged for all parties in
the program; such experience is required for those
individuals seeking the International Business emphasis
through the Pierre Laclede Honors College. (International
students in the Honors College program are required to
demonstrate a three-month, full-time work experience in
the United States.)
Emphasis in Logistics and Operations Management

This discipline has as its objective to get the appropriate goods or services to the right place, at the right time, in the right quality and quantity—thereby making the greatest contribution to the organization.

Students must complete a minimum of 12 credit hours selected from the following, with no more than one course in programming:

Business Administration (BA)
224(3806), Managerial Applications of Object-Oriented Programming I (programming)
295C(3395), Business Administration Problems—Logistics and Operations Management
296(3199), Independent Study (approved)
306(3843), Decision Support Systems
307(3844), End-User Computing for Business Applications (programming)
308A(4320), Production and Operations Management
308B(4330), Business Logistics Systems
308C(4322), Lean Production in Manufacturing and Service Operations
308D(4324), Service Operations Management
329(4312), Business Forecasting
330(4326), Quality Assurance in Business
331(4314), Multivariate Analysis
375(4350), Operations Research
385(4354), Operations Research II
395C(3398), Business Administration Seminar—Logistics and Operations Management

Computer Science (CS)
125(1250), Introduction to Computer Science (programming)

Emphasis in Management and Organizational Behavior

The study of management and organizational behavior focuses on the behavior of individuals and groups in an organizational setting.

Students must complete BA 311(3611), Advanced Management and Organizational Behavior, plus 3 courses selected from:

Business Administration (BA)
280(3612), Professional Skills Development
295E(3695), Business Administration Problems—Management and Organizational Behavior
296(3199), Independent Study (approved)
309(3621), Human Resource Management
312(3622), Industrial and Labor Relations
314(3682), Managing the Global Workforce
317(3680), International Management
318(3623), Industrial and Organizational Psychology (same as Psychology 318(3318))
319(3624), Employee Training and Development

324(3684), The Japanese Management System
325(3685), Role of the Global Corporation
392(4614), Entrepreneurship/Small Business Management
395E(3698), Business Administration Seminar—Management and Organizational Behavior

Emphasis in Marketing

Marketing involves the activities needed to facilitate an exchange. This includes selling products, services, or ideas to both individual consumers and business buyers.

Students must complete 4 upper division electives from among:

Business Administration (BA)
270(3720), Management of Promotion
275(3740), Marketing Research
295F(3795), Business Administration Problems—Marketing
296(3199), Independent Study (approved)
301(3710), Consumer Behavior
302(3741), Quantitative Marketing Methods
303(3760), Business-to-Business Marketing
315(3701), Marketing Management
316(3780), International Marketing
321(3721), Internet Marketing
322(3750), Sales Management
395F(3798), Business Administration Seminar—Marketing

Bachelor of Science in Management Information Systems Degree

Mission The Management Information Systems (MIS) area endeavors to prepare high-potential students of diverse backgrounds for successful careers in the MIS profession. Careers in MIS may include programming, systems analysis and design, database administration, end-user support, network administration, and management consulting. The goal is to provide students with the skills to deal with the challenges confronting the MIS profession and to contribute to their solutions. The faculty strives to further the practice and understanding of MIS through teaching, research, and service to the profession.

Students are required to complete a minimum of 7 courses beyond required business core courses:

Programming/File Structure—2 courses selected from track A or track B
Track A—Business Administration (BA)
109(3805), COBOL Programming
209(3815), File Management
Track B—Business Administration (BA)
224(3806), Managerial Applications of Object-Oriented Programming I
225(3816), Managerial Applications of Object Oriented Programming II
Analysis and Design—2 courses—Business Administration (BA)
215(3810), Information Systems Analysis
310(4850), Information Systems Design

Database—1 course—Business Administration (BA)
212(3845), Database Management Systems

Students must complete 2 courses (at least 1 300-level business [BA] course) from Business Administration (BA)
109(3805), COBOL Programming—Track B students only
209(3815), File Management—Track B students only
224(3806), Managerial Applications of Object-Oriented Programming I—Track A students only
225(3816), Managerial Applications of Object-Oriented Programming II—Track A students only
2950(3895), Business Administration Problems—Management Information Systems
296(3199), Independent Study (approved)
304(3841), The Management of Information Systems
305(3842), Management of Telecommunications
306(3843), Decision Support Systems
307(3844), End-User Computing for Business Applications
344(3421), Accounting Information Systems and Spreadsheet Applications (but not with 351)
351(3502), Computer Applications in Finance (but not with 344)
3950(3898), Business Administration Seminar—Management Information Systems
Computer Science (CS)
240(2700), Computer Systems: Architecture and Organization
241(2710), Computer Systems: Programming
330(4300), Introduction to Artificial Intelligence
376(4760), Operating Systems

Minors in Business Administration

General Requirements

- All minors are 15 credit hours or 5 courses, including business core courses
- Students must attain a 2.0 grade point average for all courses in the minor
- Students must attain a minimum grade of C- in each course included in the minor
- All courses in the minor must be on a graded basis
- A minimum of 9 credit hours of coursework included in the minor must be taken in residence at UM-St. Louis
- One must complete a baccalaureate degree at UM-St. Louis in order for a minor to be conferred
- A minor may be added for up to two years following completion of the baccalaureate degree

Minor in General Business

This minor is available only to students seeking a baccalaureate degree outside the College of Business Administration

Five courses selected from
Business Administration (BA)
103(1800), Computers and Information Systems
140(2400), Fundamentals of Financial Accounting
156(2900), Legal Environment of Business
204(3500), Financial Management
206(3700), Basic Marketing
210(3600), Management and Organizational Behavior
252(3320), Introduction to Operations Management

Minor in Accounting

Available to all students except those pursuing the Bachelor of Science in Accounting degree. Students must complete
Business Administration (BA)
140(2400), Fundamentals of Financial Accounting
145(2410), Managerial Accounting
plus any three upper division accounting electives

Minor in Employee Training and Development (see Evening College)

Minor in Finance

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete
Business Administration (BA)
204(3500), Financial Management
plus any four upper division finance electives

Minor in International Business

Available to all students except those pursuing the Bachelor of Science in Business Administration degree with an emphasis in International Business. Students must complete any 5 courses in International Business.

Minor in Logistics and Operations Management

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete
Business Administration (BA)
252(3320), Introduction to Operations Management
plus any four upper division logistics/operations management electives, including no more than one programming course selected from Business Administration (BA)
224(3806), Managerial Applications of Object-Oriented Programming I
307(3844), End-User Computing for Business Applications
Computer Science (CS)
125(1250), Introduction to Computing

Minor in Management and Organizational Behavior

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete Business Administration (BA)
210(3600), Management and Organizational Behavior
311(3611), Advanced Management and Organizational Behavior
plus any 3 upper division management and organizational behavior electives

Minor in Management Information Systems

Available to all students except those pursuing the Bachelor of Science in Management Information Systems degree. Students must complete Business Administration (BA)
103(1800), Computers and Information Systems
One programming course selected from Business Administration (BA)
109(3805), COBOL Programming
224(3806), Managerial Applications of Object-Oriented Programming I
and 3 additional upper division information systems electives. At least one of these electives should be selected from Business Administration (BA)
212(3845), Database Management Systems
215(3810), Information Systems Analysis
or a 300-level course

Minor in Marketing

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete Business Administration (BA)
206(3700), Basic Marketing
plus any 4 additional upper division marketing electives

Graduate Studies

The College of Business Administration offers four graduate degrees: the Doctor of Philosophy in Business Administration (Ph.D.), the Master of Business Administration (MBA), the Master of Science in Management Information Systems (MS in MIS), and the Master of Accounting (MAcc). All programs carry the prestigious accreditation of the AACSB.

Admission Requirements

The admissions decision is based on a combination of factors. Consideration is given to a candidate’s academic record, scores on the Graduate Management Admissions Test (GMAT), work and leadership experience, a personal narrative on the application form, and recommendations.

As in most AACSB-accredited graduate business programs, the UM-St. Louis College of Business generally requires Graduate Management Admissions Test (GMAT) scores. Information on the GMAT exam can be obtained from the Office of Graduate Business Studies, or on the Internet at www.gmac.com. The examination tests one’s ability to read, understand, and to reason logically with both verbal and quantitative material. The test is not a measure of achievement or business knowledge. Under certain conditions, the applicant may petition for waiver of the GMAT requirement, based on possession of an advanced degree and/or the ability to supply acceptable scores from an equivalent test.

Doctor of Philosophy in Business Administration (Ph.D.)
The Ph.D. program is a full-time program of study designed to prepare academic scholars who will excel in the national and international marketplace. This is the only doctoral business program with an Information Systems emphasis offered at a public university in the state of Missouri. Courses are taught by full-time, nationally known scholars who have been recognized as one of the most academically prolific IS faculties in America.

Master of Business Administration Program (MBA)
The MBA is available in two formats: the evening MBA program and the Internet-Based MBA program. Both are fully accredited by AACSB International – The Association to Advance Collegiate Schools of Business for Management Education the premier accrediting body in collegiate business education. The MBA programs are designed to prepare students for administrative and professional positions. They also provide an appropriate foundation for students contemplating doctoral work and eventual careers in college teaching and research. The programs are designed for students who have bachelor's degrees from accredited institutions, including those with undergraduate backgrounds in the sciences, engineering, humanities, or arts. Graduate Business program information is available online at http://mba.umsl.edu.

The Evening MBA Program

The MBA curriculum provides training in the fundamental areas of business administration. The core program is designed to generate a working knowledge of the concepts and interrelationships of four broad categories fundamental to management training:

- The external environment confronting business organizations and management's response to legal, economic, social, and political issues.
The internal operation of various business organizations and management's role in channeling human behavior to satisfy both personal and organizational goals.

Basic concepts, terminology, and interaction of the accounting, marketing, finance, information technology and operations management disciplines.

Quantitative management decision-making models put to use in the context of current management information systems.

The total degree program is integrated by a course in strategy formulation and implementation in the student's last semester. There is no thesis requirement; however, students interested in undertaking an individual research project may earn elective credit by enrolling in a supervised independent study course.

Degree Requirements
Depending on the student's previous background, programs will range from 39 to 54 hours. Coursework must be completed within a six-year period. At least 30 hours of coursework must be taken while enrolled as an MBA candidate at UM-St. Louis.

Candidates must take at least one course at either the core level or from the business breadth requirements list in each of the following six areas: accounting, finance, management, marketing, information systems, and management science. Also, no more than 15 credit hours may be taken in any one of the six areas.

Students are also required to have completed the equivalent of Econ 301, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences, by the end of their first 15 hours in the program.

Required Courses
The following courses or their equivalents are required of all degree candidates.

General Requirements – 18 hours
Econ 301(3150), Quantitative Methods and Modeling in Economics, Business, and the Social Sciences
BA 405(5100), Managerial Communication
BA 408(5000), Economics for Managers
BA 412(5900), Law, Ethics, and Business
LOM 481(5300), Statistical Analysis of Management Decisions
BA 490(5219), Strategy Formulation and Implementation

Core Requirements – 18 hours
Accounting 440(5400), Financial and Managerial Accounting
Finance 450(6500), Financial Management
Management 460(5600), Organizational Behavior and Administrative Processes
Marketing 470(5700), Contemporary Marketing Concepts

IS 480(6500), Management Information Systems
LOM 483(5320), Production and Operations Management

Business Breadth Requirements – 9 hours
A student must take a second-level course in three of the following areas:

Accounting:
Accounting 442(5401), Financial Reporting and Analysis
Finance: Any approved graduate level course beyond Finance 450(6500)
Management: Any approved graduate level course beyond Management 460(5600)
Marketing: Any approved graduate level course beyond Marketing 470(5700)
Information Systems: Any approved graduate level course beyond IS 480(6800)
Logistics and Operations Management: Any approved graduate level course beyond LOM 483(5320)

Electives
The student must take a minimum of nine hours of elective courses. A maximum of six hours of electives may be taken at the 300 level. Graduate students may be required to complete additional work in these courses. Nine elective hours may be taken outside the College of Business Administration if the student has approval in advance from a graduate adviser for the specific courses desired.

Emphasis Areas
MBA students may obtain emphasis areas in Accounting, Finance, Management, Marketing or Operations Management. In addition to the requirements articulated above, the requirements for each emphasis area are shown below.

Emphasis in Accounting
MBA students seeking an Emphasis in Accounting must complete a minimum of 12 hours of graduate level Accounting electives beyond ACCT 440(5400) and including ACCT442 (5401). A maximum of 15 hours in any functional area will count toward degree requirements. (Ordinarily only courses that are not substantially the same as courses taken for credit in a student’s undergraduate program would be acceptable.)

The total number of elective courses required will depend on the number of hours to earn the MBA degree.

Emphasis in Finance
MBA students seeking an Emphasis in Finance must complete a minimum of 12 hours of Finance electives beyond Finance 450(6500). A maximum of 15 hours in any functional area will count toward the degree requirements. One Finance course may apply toward the Business Breadth requirement, and the remainder toward the Elective requirement. The total number of elective
courses required will depend on the number of hours waived. Students must complete at 39 credit hours to earn the MBA degree.

**Emphasis in Management**
MBA students seeking an Emphasis in Management may choose one of the tracks specified below. Regardless of the track chosen, one must complete a minimum of 12 hours of Management electives beyond MGMT 460(5600). A maximum of 15 hours in any functional area will count toward the degree requirements. The total number of elective courses required will depend on the number of hours waived. Students must take at least 39 credit hours to earn the MBA degree.

**General Management Track**
Any 4 MGMT courses.

**Human Resource Management Track**
MGMT 461(5621), Managing Human Resources + 3 courses selected from MGMT 463(5624), 464(5623), 465(5622), 466(5625).

**Emphasis in Marketing**
MBA students seeking an Emphasis in Marketing must complete a minimum of 12 hours of Marketing electives beyond MKTG 470(5700), including MKTG 471(5701). A maximum of 15 hours in any functional area will count toward the degree requirements. The total number of elective courses required will depend on the number of hours waived. Students must complete at least 39 hours credit hours to earn the MBA degree.

MGITG 471(5701), Marketing Planning and Strategy + 3 additional MKTG courses

**Operations Management**
MBA students seeking an Emphasis in Operations Management must complete 9 hours from approved courses in addition to LOM 481(5300) and LOM 483(5320). Up to 3 hours may be transferred from another AACSB-accredited graduate program at the discretion of the Area Coordinator. A maximum of 15 hours in any functional area will count toward the degree requirements. The total number of elective hours required will depend on the number of hours waived. Students must complete at least 39 credit hours to earn the MBA degree.

The 9 credit hours (generally 3 courses) may be chosen from:

- LOM 480B(5330), Business Logistics Systems
- LOM 488C(5322), Lean Production
- LOM 488D(5331), International Logistics and Operations Management
- LOM 488E(5332), Logistics and Supply Chain Modeling
- LOM 480(5326), Quality Management
- LOM 482(5350), Management Science Methods
- LOM 486(5312), Advanced Statistical Methods for Management Decisions

**LOM 487(6360), Advanced Logistics & Operations Management Applications**
LOM 493(5354), Simulation for Managerial Decision Making
LOM 494(6354), Advanced Operations Research Topics
IS 497(6833), Decision Support Systems
MKT 408(5770), Supply Chain Management
BA 408F(5333), Topics in Logistics and Supply Chain Management
LOM 414(5301), Introduction to Geographic Information Systems
BA 420(5198), Seminar in Business Administration*
BA 430(5299), Individual Research*

*Subject to approval of the Area Coordinator.

**Previous Education**
Based on a formal review and evaluation by the Office of Graduate Studies in Business, students may be granted waivers of certain courses from the general and core requirements. Waivers depend on the applicability of prior coursework and the student’s performance in these courses. Regardless of the number of courses waived, all students must take at least 39 hours to earn the degree.

**Professional MBA On-Line Program**
A weekend-based Internet-enhanced version of the MBA program exists as an alternative to the traditional part-time evening program. This program is a 48 credit hour program for professionals with busy work or travel schedules. Students meet on campus monthly, with the remainder of the interaction between instructor and students taking place online. Students proceed through the program as part of a cohort group and complete the requirements for the degree in two years.

The first 30 hours of the Internet-based program consist of the same core courses required in the evening program (except for the mathematics and economics requirements, which are treated as prerequisites and must be satisfied prior to starting the program). The remaining 18 hours consist of the following courses:

- Accounting 442(5401), Financial Reporting and Analysis
- Finance 459(6590), Seminar in Finance
- Management 469(5695), Seminar in Management
- Marketing 474(5795), Seminar in Marketing
- IS 424B(6891), Seminar in Management Information Systems
- LOM 494B(6395), Seminar in Logistics and Operations Management

**Master of Science in Management Information Systems (MS in MIS)**
The Master of Science in MIS program is designed to provide the technical and managerial knowledge to operate successfully in careers associated with the design, development and management of computer-based information, telecommunications, and Internet applications. The program accommodates students with undergraduate degrees specializing in MIS, business, and computer science, as well as students with undergraduate degrees outside business. The program allows specialization in telecommunications, electronic commerce, or business systems development.

MS in MIS Program Degree Requirements
The program may require as few as 30 hours for students with undergraduate business degrees from AACSB-accredited institutions. Because of the need to attain general business core competencies as a foundation of the MS in MIS requirements, students with no academic business background will be required to take additional hours as outlined below.

General Requirements
All students must meet course requirements in quantitative reasoning, general business and MIS. Students must complete a minimum of 30 credit hours beyond the general business core. Of the 30 hours beyond the general business core, at least 15 credit hours in MIS must be completed at the graduate level, and at least 24 of the hours must cover topics beyond IS 480(6800) and IS 423A(6805). Students with a B.S.B.A. with an emphasis in MIS or a B.S. in MIS from an AACSB-accredited institution may, at the student’s discretion, substitute two electives for IS 480(6800) and IS 423A(6805). Waivers may be granted for other courses with appropriate undergraduate course work.

Quantitative Reasoning Requirement
Students are required to have completed by the end of their first semester in the program the equivalent of Econ 301(3150), Quantitative Methods in Modeling in Economics, Business and the Social Sciences with a grade of C or better. Students are also required to complete the equivalent of LOM481(5300) Statistical Analysis for Management Decisions with a grade of C or better. These courses do not count towards the graduate degree, but waivers may be granted with appropriate undergraduate course work.

General Business Core
Students must have a B.S. in MIS, or a B.S.B.A. with an emphasis in MIS that requires a managerial communication course, and coursework equivalent to at least five of the following courses:

BA 412(5900), Law, Ethics, and Business
ACCT 440(5400), Financial and Managerial Accounting
FIN 450(6500), Financial Management
MGMT 460(5600), Organizational Behavior and Administrative Processes

MKTG 470(5700), Contemporary Marketing Concepts
LOM483(5320), Production and Operations Management
BA 490(5219), Strategy Formulation and Implementation

Students who have not met this prerequisite must complete BA 405(5100) Managerial Communication and course work from at least five of the courses listed above.

Program Requirements
A. Basic MIS courses 9 credit hours
IS 480(6800), Management Information Systems
IS 423A(6805), Applications of Programming for Business Solutions
IS 485(6825), Management Information Systems: Theory and Practice.

B. MIS Specialization Courses 15 credit hours
See specializations following this overall description.

C. MIS Electives 6 credit hours
Students must take at least two of the following courses.
A course cannot count for credit as an elective if it is used as a specialization course (see Section B).
LOM 414(5301), Introduction to Geographic Information Systems
IS423B(6806), Managerial Applications of Object-Oriented Technologies
IS 423C(6807), Business Programming and File Systems
IS 423D(6808), Internet Programming for Business
IS 424A(6892), Seminar in Current Management Information Systems Topics
IS 424C(6838), Business Process Design
IS 424D(6881), Management of Transnational Information Systems
IS 425(6831), Advanced MIS Applications
IS 426(6837), Management of Client/Server Computing
IS 488(6840), Information Systems Analysis
IS 489(6945), Database Management Systems
IS 491(6835), Electronic Commerce
IS 492(6832), Information Systems Strategy
LOM 493(5354), Simulation for Managerial Decision Making
IS 495(6850), Information Systems Design
IS 496(6836), Telecommunications: Design and Management
IS 497(6833), Decision Support Systems
IS 498(6834), Fourth Generation Languages and End User Computing
IS 499(6890), Management Information Systems Thesis Research
CSC 377(4770), Operating Systems for Telecommunications
CSC 427(5780), Systems Administration

MIS Specialization Options
(These are the course requirements for Category B identified previously).
1. Business Systems Development
The following four courses are required:
IS 488(6840), Information Systems Analysis
IS 489(6845), Database Management Systems
IS 495(6850), Information Systems Design
IS 496(6836), Telecommunications: Design and Management
Also required is one additional MIS course not being used for credit in Section C.

Students having earned a B.S.B.A. with an emphasis in MIS or a B.S. in MIS from an AACSB-accredited university may be granted waivers for IS 488 and IS 489 with appropriate course work. However, they must take IS 495 and additional electives of their choice to complete this option.

2. Telecommunications
The following five courses are required:
IS 496(6836), Telecommunications: Design and Management
IS 423B(6806), Managerial Applications of Object-Oriented Technologies
IS 426(6837), Management of Client/Server Computing
CSC 377(4770), Operating Systems for Telecommunications
CSC 427(5780), Systems Administration

3. Electronic Commerce
The following five courses are required:
IS 491(6835), Electronic Commerce
IS 423D(6808), Internet Programming for Business
IS 426(6837), Management of Client/Server Computing
IS 489(6845), Database Management Systems
IS 496(6836), Telecommunications: Design and Management

4. General MIS
Any five courses from the list under Category C (not being used for credit in Category C) are required.

Master of Accounting Program (MAcc)
The MAcc program prepares students to enter the accounting profession or to further existing accounting careers. Designed to accommodate both students with undergraduate accounting majors and students with other undergraduate backgrounds, the program permits students to take a generalized course of study or specialize in income taxation or auditing/systems. It may require as few as 30 credit hours for students with undergraduate accounting degrees.

Because of the need to attain general business and professional accounting core competencies as a foundation for the MAcc requirements, students with no academic business or accounting background will be required to take additional credit hours as outlined below.

General Requirements
All students must meet course requirements in mathematics, general business, and accounting. Students must complete a minimum of 30 credit hours beyond the general business core and the professional accounting core. At least 15 credit hours in accounting must be completed, including at least 12 credit hours at the graduate level. At least 9 credit hours of the student's 30 credit hour program must be in graduate level non-accounting courses. Of the 30 credit hours beyond the general business and professional accounting core, 21 credit hours must be earned in courses at the graduate level.

Mathematics Background Requirement
Students are required to have completed by the end of their first semester in the program the equivalent of Economics 301, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences, with a grade of C or better. Graduate credit is not given for this course but it may be waived with appropriate undergraduate coursework.

General Business Core
Students must have credit for the equivalent of one 3-hour course in each of the following subject areas: macroeconomics, microeconomics, financial accounting, managerial accounting, marketing, financial management, organizational behavior, and business strategy. These requirements may be met with graduate-level course work or may be waived with appropriate courses taken as an undergraduate.

Professional Accounting Core
Students must have credit for the equivalent of each of the following three-credit-hour courses. Some of these courses may be taken concurrently with MAcc degree requirements (listed below) or may be waived with appropriate courses taken as an undergraduate.

BA
340A(3401), Financial Accounting and Reporting I
340B(3402), Financial Accounting and Reporting II
344(3421), Computer Applications in Accounting
345(3411), Cost Accounting
Accounting 441(5411), Concepts in Management Accounting
BA Accounting 347(3441), Income Taxes
BA Accounting 348(4435), Auditing

MAcc Degree Requirements (minimum: 30 credit hours)

Accounting Courses (minimum: 15 credit hours, 12 credits at the graduate level)
BA Accounting 341(4401), Financial Accounting & Reporting III*
BA Accounting 342(4402), Financial Accounting & Reporting IV*
Research course-At least one of the following courses must be completed:
Accounting 421(5402), Professional Accounting Research
Accounting 431(5441), Tax Research
Seminar- At least one of the following courses must be completed:
Accounting 445(4503), Seminar in Financial Accounting
Theory
Accounting 439(6441), Seminar in Taxation
Accounting 446(5435), Seminar in Auditing

Accounting Electives to meet 15 credit-hour and graduate level requirements

Non-Accounting Courses (minimum: 9 credit hours at the graduate level)
BA 405(5100), Managerial Communication*
BA 412(5900), Law, Ethics, and Business*
IS 480(6800), Management Information Systems*
LOM 481(5300), Statistical Analysis for Management Decisions*
LOM 483(5320), Production and Operations Management*

Electives may be necessary to meet 9-credit-hour graduate level non-accounting requirements or minimum 30-credit-hour requirement (*May be waived with appropriate undergraduate courses).

Taxation Emphasis

Students desiring an emphasis in taxation must complete
Accounting 431(5441), Tax Research, Accounting
439(6441), Seminar in Taxation, Accounting 433(5443),
Taxation of Corporations and Shareholders, and at least
two courses from the following list of electives:
Accounting 432(5442), Taxation of Estates, Gifts, and
Trusts
Accounting 434(5444), Taxation of Partnerships and
Partners
Accounting 435(5445), Tax Practice and Procedure
Accounting 436(5446), Advanced Topics in Taxation

Auditing/Systems Emphasis

Students desiring an emphasis in Auditing/Systems must complete
Accounting 421(5402), Professional Accounting
Research, Accounting 446(5435), Seminar in Auditing,
Accounting 449(5436), Systems Auditing,
Accounting 447(5412), Accounting Systems for
Management Planning and Control, and at least three
courses from the following list of electives:
IS 480(6800), Management Information Systems
IS 423A(6805), Applications of Programming for Business
Solutions
IS 488(6840), Information Systems Analysis
IS 489(6845), Data Base Management Systems
IS 495(6850), Information System Design

Ph.D. in Business Administration (Information Systems Emphasis)

Admissions Requirements

Admission decisions are made on the basis of past academic record, intellectual ability, GMAT or GRE score, and career commitment. Applications are accepted from students who have baccalaureate or graduate degrees. Past graduate work may be credited toward degree requirements where appropriate. Applicants must submit:

- Official academic transcripts.
- Official GMAT or GRE results in fields approved by the College of Business.
- Three letters of recommendation (at least two from individuals with earned doctorates).
- A statement of objectives for the course of study.

Graduate Assistantships

Stipends for research and teaching assistantships (nine month/20 hours per week) are awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

Degree Requirements

The Ph.D. in the College of Business Administration requires 75 course credit hours and a minimum of 6 dissertation credit hours beyond the baccalaureate degree. To ensure sufficient background for doctoral-level courses, students must demonstrate appropriate competence in quantitative reasoning, which is evidenced through completion of Econ 301(3150) and BA 408(5000) or their equivalent. Students must also demonstrate appropriate competence in managerial communication, which is evident through completion of BA 405(5100) or equivalent to be determined by the Ph.D. Coordinator.

Course Requirements

I. Business & Research Foundation Requirement: 11 Courses (31 credit hours)

Students are required to take:
IS 480(6800), Management Information Systems
LOM 481(5300), Statistical Analysis for Management
Decisions
BA 412(5900), Law, Ethics, and Business
ACCT 440(5400), Financial and Managerial Accounting
FIN 450(6500), Financial Management
MGMT 460(5600), Organizational Behavior
MKTG 470(5700), Contemporary Marketing Concepts
LOM 483(5320), Production and Operations Management
LOM 484(5310), Statistical Modeling
LOM 488(6840), Experimental and Survey Design and
Analysis
BA 406(7020), Seminar in Business Administration
Teaching (1 credit hour)
The first eight courses 480(6800), 481(5300), 412(5900),
440(5400), 450(6500), 460(5600), 470(5700), 483(5320)
will normally be waived if students have an UMSL MBA, MS in IS, or MAcc degree, or equivalent course work.

II. Supporting Field Requirement: (9 credit hours)
Students must take 9 credit hours of graduate level courses beyond foundation course work in a supporting field: Supporting fields may include areas of business such as Accounting, Finance, Management, Logistics & Operations Management, and Marketing. Students may select supporting fields from outside the College of Business Administration (such as Applied Mathematics, Computer Science, Political Science, Psychology, etc.) with approval of the Ph.D. Coordinator.

III. IS Requirement: 12 courses (35 credit hours)
Students are required to take the following ten courses:

- IS 423A(6505), Applications of Programming for Business Solutions
- IS 485(6825), Management Information Systems: Theory and Practice
- IS 488(6540), Information Systems Analysis
- IS 489(6845), Database Management Systems
- IS 496(6856), Telecommunications: Design and Management
- BA 407(7021), Philosophical Foundations of Business Administration Research (2 credit hours)
- IS 490A(4890), IS research seminar
- IS 490B(7891), Quantitative research methods in MIS
- IS 490C(7892), Qualitative research methods in MIS
- IS 490D(7893), Special Topics in MIS

Students are required to take two of the following courses:

- LOM 414(5301), Introduction to Geographic Information Systems
- IS 423B(6806), Managerial Applications of Object-Oriented Technologies
- IS 423C(6807), Business Programming and File Systems
- IS 423D(6808), Internet Programming for Business
- IS 424A(6892), Seminar in Current Management Information Systems Topics
- IS 424C(6835), Business Process Design
- IS 424D(6808), Management of Transnational Information Systems
- IS 425(6831), Advanced MIS Applications
- IS 426(6837), Management of Client/Server Computing
- IS 491(6835), Electronic Commerce
- IS 492(6832), Information Systems Strategy
- IS 495(6850), Information Systems Design
- IS 497(6833), Decision Support Systems
- IS 498(6833), Fourth Generation Languages and End-User Computing

Other Requirements:
Upon completion of coursework, students are advanced to candidacy by successfully completing a comprehensive examination in the field of MIS and a supporting field examination in the student's chosen area.

Students admitted to the program with a relevant Masters degree should pass the comprehensive examination and the supporting field examination within three years of admission to the Ph.D. program. Students admitted to the program with an undergraduate business degree should pass the comprehensive examination and the supporting field examination within four years of admission to the Ph.D. program. Students admitted to the program with an undergraduate degree outside of business should pass the comprehensive examination and the supporting field examination within five years of admission to the Ph.D. program. In these cases, prior coursework will be evaluated for equivalency to Section I course requirements.

Students are required to defend a dissertation proposal within one year of advancement to candidacy.

Students are required to present one paper at a regional, national, or international conference.

Students are required to submit one paper, approved by his/her dissertation advisor, to a refereed journal.

At least two semesters of supervised teaching in the College of Business Administration are required of all doctoral students.

Students must satisfy all Graduate School requirements.

The degree is awarded upon successful completion and defense of the Ph.D. dissertation. The dissertation must be defended within three years of approval of a Ph.D. dissertation proposal.

Graduate Certificate Programs in Business Studies
The College of Business Administration offers eight 18-hour Graduate Certificates. To be admitted to a graduate certificate program, students must meet the same requirements as those needed for a graduate degree program in business (see Admission Requirements in the Graduate Studies in Business Administration section of this Bulletin).

Certificate programs allow qualified graduate students to pursue an intensive course of study in a specialized business topic without requiring completion of a full graduate business degree program. Certificate programs provide students with the opportunity to obtain the advanced knowledge available through a graduate course of study in relatively brief period.

In order to successfully complete a certificate program, students must earn a 3.0 cumulative GPA in certificate classes. Unless otherwise specified, the coursework must be completed within six years. Students must also comply with all requirements related to matters such as
prerequisites, academic probation, and other graduate business program policies.

**Graduate Certificate Program in Business Administration**

This is an 18-hour program designed to accommodate individuals with an undergraduate/graduate degree in a non-business field seeking core business knowledge. The program emphasizes coursework designed to cover the major disciplines within the field of business. Upon completion the student will have knowledge of common business theories, practices, and procedures.

To earn the certificate, students must complete six courses as prescribed below. All course prerequisites and all course waivers are applicable. Substitute courses may be approved by the appropriate Area Coordinator and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the graduate certificate.

**Program Requirements: (5 courses)**

- **ACCT 440(5400), Financial and Managerial Accounting**
- **MGMT 460(5600), Organizational Behavior and Administrative Processes**
- **MKT 470(5700), Contemporary Marketing Concepts**
- **IS 480(6800), Management Information Systems**

**One of the following:***

- **FIN 450(6500), Financial Management**
- **LOM 483(5320), Production and Operations Management**

**Elective Course (1 course):**

- **BA 405(5100), Managerial Communication**
- **BA 412(5900), Law, Ethics and Business**
- **FIN 450(6500), Financial Management**
- **LOM 483(5230), Production and Operations Management**

*Cannot be used as an elective if used as a program requirement.

**Graduate Certificate in Electronic Commerce**

New communication technologies are changing the way organizations work with one another, the way consumers purchase products, and even the types of organizations that exist. Technology is changing the fundamental processes and structures of business. This certificate will introduce students to the interaction of existing processes and structures, and the introduction of new technologies to develop models of business activity in technology intensive environments.

Students must complete 18 hours as specified below.

- **IS 480(6800), Management Information Systems**
- **IS 423A(6805), Applications of Programming for Business Solutions**
- **IS 423D(6808), Internet Programming for Business**
- **IS 491(6835), Electronic Commerce**
- **IS 496(6836), Telecommunications: Design and Management**
- **IS 426(6837), Management of Client/Server Computing**

Students may opportunity to take additional electives should they desire to do so.

All course prerequisites and waivers are applicable. Substitute courses must be approved by the IS Area Coordinator and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the certificate. Students should complete the certificate with 3 years from the time they first enroll in the program.

**Graduate Certificate in Human Resources Management**

The Graduate Certificate in Human Resources Management is an 18-hour course of study designed to focus on the multidimensional aspects of personnel operations within business organizations. The course of study emphasizes both formal and informal aspects of human resources management.

**Requirements**

Students must complete the following six courses or appropriate substitutes if course waivers are appropriate:

- **Management 460(5600), Organizational Behavior and Administrative Processes**
- **Management 461(5621), Managing Human Resources**
- **Management 464(5623), Compensation and Benefits**
- **Management 465(5222), Union-Management Relations and Collective Bargaining**
- **Management 466(5225), Personnel Administration: Theory and Practice**
- **LOM 481(5300), Statistical Analysis for Management Decisions**

**Management 460(5600), Management 461(5621) and LOM 481(5300) may be waived with equivalent undergraduate courses. If a student is able to waive any or all of these three courses, substitute courses (approved by both the Coordinator of the Management area and the Director of Graduate Studies in Business) will be provided. Substitute courses may include Management 462(5611), Advanced Organizational Behavior and Administrative Processes, or a course from outside the College of Business Administration. In all cases, 18 hours are needed to complete the Graduate Certificate in Human Resources Management.**

**Graduate Certificate in Information Resource Management**

Management of information as a resource will be the key to success in the 21st century. To manage this resource, efficient and effective methods for collection, maintenance and use of data must be established. This certificate exposes students to the managerial and technological issues in the planning of effective transaction processing and decision support systems. Students must complete 18
hours as specified below. In addition, if they have not had the equivalent of IS 480(6800) they must complete that course.

Programming Requirement: Students must complete one of the courses listed below:

IS 423A(6805), Applications of Programming for Business Solutions
IS 423B(6806), Managerial Applications of Object-Oriented Technologies
IS 423C(6807), Business Programming and File Systems
IS 423D(6808), Internet Programming for Business
IS 498(6834), Fourth Generation Languages and End User Computing

Core Courses: Students must complete each of the three courses listed below:

IS 485(6825), Management Information Systems: Theory and Practice
IS 488(6840), Information Systems Analysis
IS 489(6845), Database Management Systems

Elective Courses: Students must complete two courses from the following list. Students may take at most one additional programming course (marked with *), and may not use any course as an elective already used to meet the Programming Requirement.

IS 423A(6805), Applications of Programming for Business Solutions*
IS 423B(6806), Managerial Applications of Object-Oriented Technologies*
IS 423C(6807), Business Programming and File Systems*
IS 423D(6808), Internet Programming for Business*
IS 424C(6838), Business Process Design
IS 492(6832), Information Systems Management
IS 496(6836), Telecommunications: Design and Management
IS 497(6833), Decision Support Systems
IS 498(6834), Fourth Generation Languages and End User Computing*

Students will have the opportunity to take additional electives should they desire to do so.

All course prerequisites and all course waivers are applicable. Substitute courses must be approved by the IS Area Coordinator and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the certificate. Students should complete the certificate within 3 years from the time they first enroll in the program.

Graduate Certificate in Marketing Management
The Graduate Certificate in Marketing Management is an 18-hour program designed to provide a focused intensive study of the marketing management activity within organizations. This program is designed to serve a broad group of marketing managers, including those with an interest in sales, brand management, promotion, and consumer behavior.

Requirements
Students must complete the following six courses or appropriate substitutes if course waivers are applicable:

Marketing 470(5700), Contemporary Marketing Concepts
Marketing 475(5710), Consumer Motivation and Behavior
Marketing 478(5740), Marketing and Business Research

Marketing Management:
Marketing 471(5701), Marketing Planning and Strategy
Marketing 476(5720), Marketing Communications
Marketing 477(5730), Product Planning and Pricing

All course prerequisites and all course waivers are applicable. The Marketing Area Coordinator and the Director of Graduate Studies in Business must approve substitute courses. In all cases, 18 hours (including at least 12 hours in Marketing) are needed to complete the certificate.
Graduate Certificate in Taxation
The Graduate Certificate in Taxation is an 18-hour course of study designed to focus on the theory and practice of taxation as a subfield of accounting. The course of study emphasizes both the legal and academic analysis of taxation.

Requirements
Besides the admission requirements needed by all graduate business students, students seeking a graduate certificate in taxation must have the equivalent of an undergraduate degree in Accounting from UM-St. Louis. An up-to-date tax course should be part of that degree although up-to-date tax knowledge may be evidenced through a previously completed tax course combined with recent tax experience.

To earn the certificate, students must complete six courses as prescribed below:

Required Courses
Accounting 431(5441), Tax Research
Accounting 433(5443), Taxation of Corporations and Shareholders
Accounting 435(5445), Tax Practice and Procedure

Three Additional Courses From:
Accounting 432(5442), Taxation of Estates, Gifts, and Trusts
Accounting 434(5444), Taxation of Partnerships and Partners
Accounting 436(5446), Advanced Topics in Taxation
BA 405(5100), Managerial Communication or BA 412(5900), Law, Ethics and Business

Students must complete the Graduate Certificate in Taxation within three years from the time they first enroll in the program.

Graduate Certificate in Telecommunications Science
Telecommunications science deals with the design, management, and administration of computer networks. The telecommunications specialist deals with issues such as system feasibility, cost optimization, system administration, and information security, while working within the framework of different regulatory agencies. The exponential growth of the Internet and the projected growth in electronic commerce have increased the need for trained professionals in telecommunications science.

Students will study telecommunications science from a technical perspective in four courses offered in the Department of Mathematics and Computer Science. In addition, they will study the regulatory and management aspects in two courses in the College of Business.

IS 423B(6806), Managerial Applications of Object-Oriented Technologies
IS 426(6837), Management of Client/Server Computing
Computer Science
CSC 377(4770), Operating Systems for Telecommunications
CSC 427(5780), Systems Administration

Graduate Certificate in Telecommunications Management
Managing telecommunications systems is a challenging and demanding job. The telecommunications manager must balance the interests of business, technical, regulatory, and applications aspects of connectivity, as well as maintain network security. The challenge has intensified with the recent exponential growth in the Internet, which has revolutionized the way in which individuals and organizations conduct business.

This certificate focuses on the management of telecommunications systems for business. It includes courses from both MIS and computer science to provide the necessary technical and managerial perspectives.

Students must complete six courses as indicated below.

IS 480(6800), Management Information Systems
IS 496(6836), Telecommunications: Design and Management
Course Descriptions

Courses in this section are grouped as follows: all undergraduate courses are listed under Business Administration; 400-level graduate courses are listed under Accounting, Business Administration, Finance, Information Systems, Logistics and Operations Management, Management and Marketing.

The College of Business Administration uses the University course numbering system with the following clarifications:

100 to 199, sophomore, junior, or senior standing is required unless a specific exception is listed.
200 to 299, junior or senior standing is required.
300 to 399, junior, senior, or graduate standing is required unless a specific exception or restriction is listed.

The number in parentheses is the proposed course number scheduled for implementation in the summer of 2003.

A minimum grade of C- shall be required to meet the prerequisite requirement for any course. Prerequisites may be waived only by consent of both the instructor and the area coordinator. A minimum campus GPA of 2.0 is required for admittance to each 200- and 300-level Business Administration course.

Business Administration (BA)

93(1590) Personal Finance for Nonbusiness Majors (3)
For future professionals who want to learn more about personal finance and how to better manage their resources. The topics include purchasing/leasing cars, home acquisitions, investing in stocks and bonds, mutual funds, retirement planning and health and life insurance. Special emphasis will be on the nontechnical aspects of these issues. Cannot be used for credit in BSBA program.

95(1000) Topics in Business Administration (1-3)
Study of selected special problems in business and administration. May be repeated for credit with different topics. Cannot be included in BSBA program.

103(1800) Computers and Information Systems (3) [M1]
This course covers the basic concepts of networked computers including the basics of file management on local and remote computers, electronic mail, Internet browsers, and web page development. Students are also exposed to applications used in business for solving problems, communicating, and making informed decisions, including word processors, presentations software, and electronic spreadsheets. Students will also develop business applications using a popular programming language or database management tool.

Credit cannot be granted for both CS 101(1010) and BA 103(1800).

104(1804) FORTRAN Programming (3)
Prerequisite: 103(1800). A study of the principles of programming digital computers using the FORTRAN language. Credit will not be granted for both 104(1804) and Computer Science 122(1220).

109(3805) COBOL Programming (3)
Prerequisite: BA103(1800) or Computer Science 125(1250). Structured COBOL programming techniques for business applications are presented. Included are report generation, control breaks, output editing, debugging, tables, and sort concepts.

140(2400) Fundamentals of Financial Accounting (3)
Prerequisites: Math 30(1030) and completion of 27 credit hours (Math 30(1030) may be taken concurrently). This is a one-semester course in financial accounting theory and practice. The primary emphasis is on the corporate financial statements of income, financial position and cash flow—their content and interpretation; and the impact of financial transactions upon them.

145(2410) Managerial Accounting (3)
Prerequisites: Math 30(1030) and BA140(2400). This is an advanced course that goes beyond the scope of a second-semester course in fundamentals of accounting. The development, interpretation, and use of relevant cost behavior, control, and traceability concepts for management planning, controlling, and decision making are emphasized. Topics include: an introduction to product costing, the contribution concept, direct costing, performance standards and variance analysis, responsibility accounting, segment profitability, alternative choice decisions, and capital budgeting.

156(2900) Legal Environment of Business (3)
Prerequisites: Econ 51(1001) and BA140(2400). An introduction to the nature and meaning of law, sources of law, legal process and institutions. The legal environment of business is defined as: the attitude of the government toward business, the historical development of this attitude; current trends of public control in taxation, regulation of commerce, and competition; freedom of contract, antitrust legislation and its relationship to marketing, mergers, and acquisitions; and labor management relations.

195(2000) Topics in Business Administration (1-3)
Prerequisites: Vary with topic; contact the College of Business Administration. Study of selected special problems in business and administration. May be repeated for credit with different topics.
204(3500) Financial Management (3)
Prerequisites: Econ 52(1002), Math 105(1105), and BA 140(2400), and a 2.0 campus GPA. The study of a firm's need for funds; the institutions, instruments, and markets concerned with raising funds; and the techniques of analysis used to determine how effectively these funds, once raised, are invested within the firm.

205(3100) Contemporary Business Communication (3)
Prerequisites: English 10(1100) or equivalent and a minimum campus GPA of 2.0. A forum wherein business writing and speaking skills are addressed. Communication unique to business organizations is critiqued. Emphasis is placed on writing and verbal communication skills necessary to succeed in the business environment.

206(3700) Basic Marketing (3)
Prerequisites: Econ 51(1001), junior standing, and a 2.0 campus GPA. An examination of the character and importance of the marketing process, its essential functions, and the institutions performing them. Attention is focused on the major policies (such as distribution, product, price, and promotion), which underlie the multifarious activities of marketing institutions and the managerial, economic, and societal implications of such policies.

207(3525) Practicum in Investments (1)
Prerequisite: BA 204(3500) and a 2.0 campus GPA. Students will apply their knowledge of stocks and bonds by managing a real dollar portfolio of securities. This course requires that students perform technical and fundamental analysis, prepare research reports, present proposals and participate in group investment decisions. The University's Student Investment Trust provides the money for students to invest. Course may be repeated for credit up to a maximum of 3 credit hours.

209(3815) File Management (3)
Prerequisite: BA 109(3805) and a 2.0 campus GPA. The course covers job control language, utilities, partitioned data sets, updating of sequential files, indexed files, and direct and/or relative files. The topics are implemented in a COBOL environment. A database management system is used to illustrate design and implementation of business applications.

210(3600) Management and Organizational Behavior (3)
Prerequisites: Junior standing and a 2.0 campus GPA. This course involves the study of the behavior of individuals and groups in an organizational setting. Specific topics examined include: motivation, leadership, organizational design, and conflict resolution, as well as basic coverage of management principles. In covering these topics, both at classic and current perspectives are provided.

212(3845) Database Management Systems (3)
Prerequisites: BA 209(3815) or BA 225(3816) and a minimum campus GPA of 2.0. This course provides an introduction to the design and use of databases in meeting business information needs. Topics include database planning, conceptual design, and data administration. The concepts are studied with projects involving the use of a current database management system.

215(3810) Information Systems Analysis (3)
Prerequisites: BA 109(3805), or BA 224(3806), and a minimum campus GPA of 2.0. Techniques and philosophies of systems analysis are addressed. Included are: traditional versus structured design methods, computer-based tools for systems analysis, workbenches, design and analysis of database systems, maintenance of existing information systems, human/machine interfaces, and security and control.

224(3806) Managerial Applications Of Object-Oriented Programming I (3)
Prerequisites: (BA 103(1800) or Computer Science 122(1220) or 125(1250) and a 2.0 campus GPA. The course provides a study of the UNIX operating system and the C++ programming language as they pertain to managerial applications. In addition, the course will introduce the use of object-oriented programming methodologies.

225(3816) Managerial Applications of Object-Oriented Programming II (3)
Prerequisites: BA 224(3806) and a minimum campus GPA of 2.0. This course expands object-oriented skills taught in BA 224(3806). The emphasis in this course is on object-oriented development tools and development in a client-server environment. The data management tools will include the use of SQL to access server-based databases.

250(3300) Business Statistics (3)
Prerequisites: Math 100(1100) and 105(1105), BA 103(1800) and a 2.0 campus GPA. Construction and use of statistical models for business management. Students will learn techniques used for relational analysis and business forecasting and how to apply them in a business context. Tools include CHI-Square tests of statistical independence; analysis of variance; simple linear regression and correlation; multiple linear regression; and extrapolative techniques such as moving averages and exponential smoothing. Emphasis is placed on problem definition, construction of statistical models, analysis of data, and interpretation of results. Computers are used for extensive analyses of case data.

252(3320) Introduction to Operations Management (3)
Prerequisites: A 2.0 campus GPA and either (Econ 51(1001), BA 145(2410), and BA 250(3300) or (Math 180(2000)) and Statistics 132(1320). An examination of the concepts, processes, and institutions, which are fundamental to an understanding of manufacturing and service operations within organizations. Emphasis is on the
management and organization of operations and upon the application of quantitative methods to the solution of strategic, tactical and operational problems.

256(3900) Business Law: Contracts, Sales, Secured Transactions, Bankruptcy (3)
Prerequisites: BA 140(2400), Econ 51(1001), and a 2.0 campus GPA, or junior standing and a 2.0 campus GPA. Introduction to the laws of contracts, sales, secured transactions, bankruptcy, and other selected topics.

257(3901) Business Law: Negotiable Instruments, Business Organizations, Property (3)
Prerequisites: BA 140(2400), Econ 51(1001), and a 2.0 campus GPA, or junior standing and a 2.0 campus GPA. Introduction to the laws of negotiable instruments, the principal-agent relationship, partnerships, corporations, property, and other selected topics.

270(3720) Management of Promotion (3)
Prerequisite: BA 206(3700) and a 2.0 campus GPA. A study of the design, organization, and implementation of the marketing communications mix. Various methods, such as advertising, personal selling, and publicity are analyzed as alternatives for use alone, or in combination, to stimulate demand, reseller support, and buyer preference. Particular topics considered include: media selection, sales promotional, packaging, and selling strategy, and their relationships in the promotion process.

275(3740) Marketing Research (3)
Prerequisites: BA 103(1800), 206(3700), 250(3300) and a 2.0 campus GPA. An investigation of the acquisition, presentation, and application of marketing information for management. Particular problems considered are defining information requirements, evaluating research findings, and utilizing information. Statistical methods, models, and/or cases are employed to illustrate approaches to marketing intelligence problems, such as sales forecasts, market delineation, buyer motives, store location, and performance of marketing functions.

280(3612) Professional Skills Development (3)
Prerequisites: A minimum campus GPA of 2.0 and Junior Standing. This course focuses on career management. Topics include job search, interviews, resumes and cover letters, presentation skills, business etiquette, entry strategies, and career alternative.

289(3200) Career Planning (1)
Prerequisite: A minimum of junior standing and a 2.0 campus GPA. The emphasis of this course will be to assist business students to develop an understanding of themselves as related to employment, to develop an understanding of the world of work, and to integrate these so that effective career decisions can be made.

295(3195) Business Administration Problems (1-10)
Prerequisite: To be determined each time the course is offered and to include a minimum 2.0 campus GPA. Study of selected special problems in business and administration. May be repeated for credit with different topics.

296(3199) Independent Study (1-3)
Prerequisite: Permission of the professor, the dean, and a minimum campus GPA of 2.0. Occasional special individual study topics under the guidance of a specific professor.

301(3710) Consumer Behavior (3)
Prerequisites: BA 206(3700) and a minimum campus GPA of 2.0. A study of such consumer functions as decision making, attitude formation and change, cognition, perception, and learning. The marketing concepts of product positioning, segmentation, brand loyalty, shopping preference and diffusion of innovations are considered in context with the environmental, ethical, multicultural and social influences on an increasingly diverse American consumer.

302(3741) Quantitative Marketing Methods (3)
Prerequisites: BA 103(1800), 206(3700), 250(3300) and a 2.0 campus GPA. Applications of stochastic, deterministic, and simulation techniques to decision areas, such as market potential, product diversification, physical distribution alternatives, retail location, media selection, and market exposure. Quantitative and computerized methods are used heavily to enhance decision making in marketing, especially the selection, allocation, budgeting, and forecasting of marketing resources.

303(3760) Business-to-Business Marketing (3)
Prerequisites: Senior Standing, Math 105(1105), BA 206(3700) and a 2.0 campus GPA. A study of the nature of the business-to-business(organizational) marketplace concentrating on those aspects that differentiate it from consumer markets. The major focus of the course is marketing strategy, starting with analysis of the market wants and segments, concepts of pricing, the distribution arrangements, and buyer/seller relations. In this last area, consideration will be given to service, personal selling, sales promotion, and advertising, as found in the organizational marketplace. At all times emphasis is given to relating business-to-business marketing strategy to basic concepts in underlying business disciplines. Lectures and case discussions are used heavily in the course.
304(3841) The Management of Information Systems (3)  
Prerequisites: [BA 109(3805) or 224(3806)] and a minimum campus GPA of 2.0. Aspects and methods for managing the computer and information resources of organizations. Topics include aligning IS plans with corporate plans, MIS organizational structures, demonstrating the value of MIS to senior management, facility management, purchase decisions, software acquisition, software metrics, project management, security issues, and economic evaluation, as they relate to information resources.

305(3842) Management of Telecommunications (3)  
Prerequisite: BA 103(1800) and a 2.0 campus GPA. The technical and managerial aspects of telecommunications as they apply to the business environment are discussed. Issues include: communications components and services, local area network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

306(3843) Decision Support Systems (3)  
Prerequisites: BA 252(3320) and a minimum campus GPA of 2.0. Applications of decision support systems and expert systems in a business environment are studied. Relationships between decision support systems, expert systems, and database management systems are explored.

307(3844) End-User Computing for Business Applications (3)  
Prerequisite: BA 109(3805) or BA 224(3806) and a minimum campus GPA of 2.0. Methods for end user development of applications in a business environment are presented. An end-user programming language (for example, Visual Basic) is used for development of prototypical applications. Case studies and/or programming problems are used to illustrate technology available to end-users for creating software in a windows-based system.

308A(4320) Production and Operations Management (3)  
Prerequisites: A minimum campus GPA of 2.0 and either [BA 252(3320) and Math 100(1100)] or [Math 255(3000) and Statistics 132(1320)]. Application of the tools and techniques of statistical decision theory and operations research to production and operating problems. Emphasis is on the use of mathematical modeling and simulation techniques to analyze complex and ill-structured problems in large-scale systems.

308B(4330) Business Logistics Systems (3)  
Prerequisites: A minimum campus GPA of 2.0 and either [BA 252(3320) and Math 100(1100)] or [Math 255(3000) and Statistics 132(1320)]. Analysis of business logistics systems, their design and operation. Topics include network design, facility location, transportation, vehicle routing, storage and handling, capacity planning, inventory management, and customer service.

308C(4322) Lean Production in Manufacturing and Service Operations (3)  
Prerequisites: A minimum campus GPA of 2.0 and either [BA 252(3320) and Math 100(1100)] or [Math 255(3000) and Statistics 132(1320)]. Study of Lean Production philosophy and techniques in manufacturing and service operations. Topics include process analysis and continuous improvement techniques, quick set-ups, total productive maintenance, kanban scheduling, cellular production, team organization of workers, supplier relations, quality management, and the environmental aspects of production.

308D(4324) Service Operations Management (3)  
Prerequisites: A minimum of 2.0 campus GPA and either [BA 252(3320) and Math 100(1100)] or [Math 255(3000) and Statistics 132(1320)]. An examination of methods for designing and operating service delivery systems, such as those in the health care, financial, transportation, hospitality, and governmental service industries. Topics include process and facility design, facility layout and location, queuing, demand forecasting and management, service quality, staffing, and personnel scheduling.

309(3621) Human Resource Management (3)  
Prerequisites: Math 105(1105) BA 210(3600) and a 2.0 campus GPA. In-depth examination of selected human resources management issues from a contemporary manager's viewpoint. Topics examined include: employee selection, performance appraisal, training and development, compensation, legal issues and labor relations.

310(4850) Information Systems Design (3)  
Prerequisites: BA 212(3845), 215(3810), one of either 209(3815) or 225(3816) and a minimum campus GPA of 2.0. System design, implementation, and methods of systems installation and operation are presented. A system development project is required.

311(3611) Advanced Management and Organizational Behavior (3)  
Prerequisite: BA 210(3600) and a 2.0 campus GPA. Building upon 210(3600), this course provides a more detailed examination of motivation, leadership, group process, decision-making, job design, and organizational development. In addition to providing more detail in terms of content, this course provides the student with considerable practical experience through the use of class exercises, case studies, and small group discussions.

312(3622) Industrial and Labor Relations (3)  
Prerequisite: BA 210(3600) and a 2.0 campus GPA. Emphasis is on the dynamic relationship between management, employees, unions, and government as determinants in the efficient and effective use of human resources. Current issues and case materials are used to supplement text and lecture.
314(3682) Managing the Global Workforce (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, BA 210(3600) and at least one of the following:
BA 311(3611) or BA 309(3621) or enrollment in Honors College. A study of the international dimensions of organizational behavior and human resource management. The course provides an overview of the tools and skills that are necessary to understand and manage people in global organizations. Topics include motivation, leadership, communication, hiring, training, and compensation. Credit not granted for students who have taken BA 317(3680).

315(3701) Marketing Management (3)
Prerequisites: Math 105(1105), BA 206(3700), one other three hour marketing course, senior standing and a 2.0 campus GPA. An intensive analysis of major marketing decisions facing the firm, such as level, mix, allocation, and strategy of marketing efforts. Specific decision areas investigated include market determination, pricing, physical distribution, product policy, promotion, channel management, and buyer behavior. Competitive, political, legal, and social factors that may affect such areas of decisions are discussed. Cases, models, and problems are used heavily.

316(3780) International Marketing (3)
Prerequisite: BA 206(3700) and a 2.0 campus GPA. Marketing management problems, techniques and strategies needed to apply the marketing concept to the world marketplace. Understanding a country's cultural and environmental impact on the marketing plan is emphasized, as well as competing in markets of various cultures. Worldwide consumerism, economic and social development, the spread of multinational corporations, business ethics, and current economic and marketing issues are examined.

317(3680) International Management (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, Econ 52(1002) and BA 210(3600); or consent of the area coordinator and the instructor. A study of international business and management practices. Topics covered include an introduction to international management and the multinational enterprise, the cultural environment of international management, planning in an international setting, organizing for international operations, directing international operations, international staffing, preparing employees for international assignments, and the control process in an international context. Credit not granted for students who have taken BA 314(3682) or BA 393(4689).

318(3623) Industrial and Organizational Psychology (3)
[Same as Psych 318(3318)] Prerequisites: Psych 201(2201) or Math 105(1105), BA 210(3600). This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance, appraisal, training, leadership, motivation, job satisfaction and organizational design.

319(3624) Employee Training and Development (3)
Prerequisite: A minimum 2.0 campus GPA. In addition, BA 210(3600) or permission of instructor. An intensive study of training in organizations, including needs analysis, learning theory, management development, and development of training objectives and programs. Projects and exercises are used to supplement the readings.

321(3721) Internet Marketing (3)
Prerequisites: BA 206(3700) and a minimum campus GPA of 2.0. This course will offer an opportunity to explore the impact of the Internet and information technology on the practice of marketing. The Internet and information technologies have revolutionized the way companies create and maintain exchange relationships between themselves and their customers. Companies, both big and small, are in the process of using the Internet to maximize the scope, effectiveness and efficiency of their existing marketing programs. This course is designed to impart students with an understanding of the range of issues involved in planning and implementing effective marketing and information communication strategies for commercial or not-for-profit organizations. The course's emphasis will not be on actual design of a web site per se, even though the merits and demerits of different layout types will be discussed. Some of the topics covered include, among others, strategic planning and its tactical implementation in electronic marketing, target market analysis and identification, the Internet's marketing capabilities and limitations, management of customer and supplier relations concerns about privacy and ethics, and understanding how the new technology has had an impact on the field of Marketing.

322(3750) Sales Management (3)
Prerequisites: BA 206(3700) and BA 210(3600); (BA 210(3600) may be taken concurrently). Also a minimum campus GPA of 2.0. The aim of this course is to provide an understanding of how selling is critical to the success of marketing. The course will promote critical thinking skills as well as practical selling skills needed in a competitive marketplace. Course topics include, among others, selling principles and techniques, understanding of the tasks and roles of the sales manager, the management of sales professionals within an organization, developing and applying effective persuasive communications, creating a vision, developing and implementing a sales-team strategy, structuring sales-force, designing and assigning territories, recruiting, training, motivation and evaluating salespeople, methods of compensation, and forecasting sales. The emphasis will be on ways the sales-force can be molded to build long-lasting relationships with customers through the systematic analysis and solution of customers' problems.
324(3684) The Japanese Management System (3)
Prerequisites: BA 210(3600) and a 2.0 minimum campus GPA. This course provides an introduction to various aspects of the contemporary Japanese business system. The emphasis is on interpretation of issues from a managerial perspective. Topics include an overview of Japan's economic growth, government policies, industrial and financial structure of Japanese business, labor-management relations, internal management practices, international competitive strategies, managing U.S. subsidiaries in Japan, penetrating the Japanese market, Japanese investment in the U.S.A., and current issues in U.S.-Japan economic relations.

325(3685) Role of the Global Corporation (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 210(3600) or permission of the instructor. The purpose of this course is to create awareness of controversial issues about international business. Students will gain a better understanding of resistance to and criticism of international business and will become better prepared for dealing with these issues and problems.

326(3581) Business in China (3)
Prerequisites: A minimum campus GPA of 2.0 and junior standing. Introduces students to the practices of doing business in China. Students will be introduced to the Chinese economic and business environment. Issues related to trade and foreign direct investment in China will be discussed. The course adopts an innovative approach; utilizing lectures, case analysis, projects, and student presentations.

327(3590) Practicum in Finance (1-3)
Prerequisites: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of finance electives and have consent of supervising instructor and Area Coordinator. A Business College GPA of at least 2.5 is also required. Students are employed in the field of finance where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience in a Track area are the primary goals. The student's program will be monitored by a finance faculty member with the student providing a formal written report at the end of the project.

328(3564) Estate Planning and Trusts (3)
Prerequisite: A minimum campus GPA of 2.0; BA 204(3500) or consent of instructor and Area Coordinator. This course will focus on the responsibility of a financial planner in the formulation and implementation of an estate plan. Topics include wills, lifetime transfers, trusts, gifts, estate reduction techniques, tax implications in estate planning, business and inter-family transfers, dealing with incompetency, postmortem techniques, and the role of fiduciaries. Lectures, cases, and guest speakers will be used to stimulate analysis and discussion.

329(4312) Business Forecasting (3)
Prerequisites: A minimum campus GPA of 2.0 and either [(BA 252(3320) and Math 100(1100))] or [(Math 255(3000) and Statistics 132(1320))]. Further study of statistical tools for forecasting in a decision-making context. Topics include explanatory models (multiple regression), classical time series decomposition, and extrapolative techniques (exponential smoothing and Box-Jenkins procedures). In addition, methods for considering problems of intervention effects, seasonality, and collinearity will be discussed. Students will perform extensive analyses of time series data using computer packages.

330(4326) Quality Assurance in Business (3)
Prerequisites: A minimum campus GPA of 2.0 and either [BA 252(3320) and Math 100(1100)] or [Math 255(3000) and Statistics 132(1320)]. A study of statistical quality control concepts and procedures applicable to management systems, administrative activities, service industries, and nonprofit organizations. Some successful quality assurance programs will be examined.

331(4314) Multivariate Analysis (3)
Prerequisites: A minimum campus GPA of 2.0 and either [BA 252(3320) and Math 100(1100)] or [Math 255(3000) and Statistics 132(1320)]. A study of statistical techniques applicable to multivariable relationships.

332(3561) Principles of Insurance (3)
Prerequisites: BA 204(3500) and 2.0 campus GPA. This is a survey course intended to introduce students to the basic concepts of insurance. Topics include the nature of risks, types of insurance carriers and markets, insurance contracts and policies, property and casualty coverages, life and health insurance, and government regulations. The functions of underwriting, setting premiums, risk analysis, loss prevention, and financial administration of carriers are emphasized.

333(3562) Life Insurance (3)
Prerequisites: BA 204(3500) or equivalent and a minimum campus GPA of 2.0. This course explores the life insurance business from the perspective of both the consumer and provider. Coverage will include an analysis of the various types of life insurance products, aspects of life insurance evaluation, reinsurance, underwriting, and uses of life insurance in financial planning. Also included is an examination of the tax, legal, and ethical requirements.

334(3520) Investments (3)
Prerequisite: BA 204(3500) and a 2.0 campus GPA. Financial analysis of debt and equity instruments available on organized exchanges and in less tangible over-the-counter markets. Techniques of such analysis are presented in context with economic and management circumstances within the company, industry, and economy.
335(3521) Financial Risk Management (3)
Prerequisites: BA 204(3500) and a 2.0 campus GPA. A study of derivative securities (forward contracts, futures, swaps and options) used in financial risk hedging. Emphasis will be placed on financial innovations and methods for tailoring a preferred risk/return trade-off. In addition, a project or a simulation will be utilized to emphasize the effects of risk management on portfolio development.

336(3502) Treasury Management (3)
Prerequisites: BA 204(3500) and a 2.0 campus GPA. The focus of this course is on the role cash management plays in corporate finance. Topics include cash collection and payment systems, forecasting cash flows, electronic fund transfers, check processing, international cash management and managing bank relationships. Students passing the course with a grade of A or B are permitted to take the qualifying exam to become a Certified Cash Manager (CCM) under a special arrangement with the Treasury Management Association. Along with other finance courses, this class prepares students for careers in the treasury departments of major companies or with service providers like banks.

337(3542) Principles of Real Estate (3)
Prerequisites: BA 204(3500) and a 2.0 campus GPA. As an introduction to the real estate industry, the course broadly explores all phases of acquisition, development and disposal of real property. Topics include legal requirements of contracts, property rights, valuation and appraisal techniques, marketing, brokerage operations and practices, mortgage financing, leasing and property management.

338(3560) Practice of Personal Financial Planning (3)
A minimum campus GPA of 2.0; BA 204(3500) or consent of instructor and Area Coordinator. Professional financial planning requires broad knowledge of investments, insurance, income taxation, retirement planning, and estate planning, as well as certification requirements and legal/ethical issues. This course introduces students to the field of financial planning, and provides an integrated overview of the topics listed above. Students interested in the Financial Planning track are encouraged to complete this course prior to taking other courses in the track.

339(3563) Retirement Planning and Employee Benefits (3)
Prerequisites: A minimum campus GPA of 2.0; BA 204(3500) or consent of instructor and Area Coordinator. The course is designed to give students an understanding of the retirement planning process. Students will gain an appreciation of the usefulness (and shortcomings) of employee benefits and develop an ability to counsel others on important retirement and employee benefit decisions. Corporate pension and profit sharing plans, self-employed Keough plans, IRA’s, annuities, health insurance and social security will be discussed.

340A(3401) Financial Accounting and Reporting I (3)
Prerequisites: A minimum 2.0 campus GPA, Math 30(1030), BA 145(2410), and 57 credit hours. Review of the foundations of financial accounting theory and of the financial statement preparation process. Accounting theory and practice related to current assets (except for investments in securities). The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

340B(3402) Financial Accounting and Reporting II (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30(1030) and BA 340A(3401). Accounting theory and practice related to topics such as, investments in securities, operational assets, current and long-term liabilities, and leases. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

341(4401) Financial Accounting and Reporting III (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30(1030) and BA 340B(3402). Accounting theory and practice related to topics such as income taxes, pensions, owner’s equity, earnings per share, and the statement of cash flows. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

342(4402) Financial Accounting and Reporting IV (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30(1030) and BA 340B(3402). Accounting theory and practice related to topics such as business combinations, consolidated financial statements, multinational operations, foreign exchange transactions, and governmental and nonprofit organizations. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

343(3451) Accounting for Governmental and Not-for-Profit Entities (3)
Prerequisites: A minimum 2.0 campus GPA, Math 30(1030), BA 340A(3401), and 57 credit hours. Principles of fund accounting and financial reporting for governmental and not for profit entities. This course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

344(3421) Accounting Information Systems and Spreadsheet Applications (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30(1030), BA 103(1800), 145(2410), and 340A(3401). Examines the fundamental of accounting information systems, including hardware and software considerations, internal controls, and transaction processing cycles. Also focuses upon the development of efficient spreadsheets as applied to financial and managerial accounting concepts.
345(3411) Cost Accounting (3)
Prerequisites: A minimum 2.0 campus GPA, Math 30(1030), BA340A(3401), and 57 credit hours. The study of the basic principles of cost determination for, and control of, manufacturing and distribution activities. Topics include job-order costing, process costing, cost allocations, and the development and use of standard costs within a system of absorption costing.

347(3441) Income Taxes (3)
Prerequisites: A minimum 2.0 campus GPA, Math 30(1030), BA340A(3401), and 57 credit hours. Fundamentals of federal income taxation. Topics include taxable entities, income, deductions, tax accounting methods, tax basis, and property transactions at both the conceptual and operational levels.

348(4435) Auditing (3)
Prerequisites: A minimum campus GPA of 2.0. In addition, Math 105(1105), 340B(3402), and BA 344(3421) or 215(3810). An introduction to auditing practice. Includes the social role of auditing and the services offered by auditors in internal, governmental, and public accounting practice. Emphasis is on the financial auditing process, including professional ethics, audit risk assessment, study and evaluation of internal control, gathering and evaluating audit evidence, and audit reporting decisions.

349(4441) Business Income Taxation (3)
Prerequisite: A minimum 2.0 campus GPA. In addition, BA347(3441). A study of the federal income taxation of partnerships and shareholders and corporations, including subchapter S (small business) corporations with emphasis on problems encountered in their formation, operation, liquidation, and sale.

350(3501) Financial Policies (3)
Prerequisites: BA 204(3500) and a 2.0 campus GPA. The intensification and application of the concepts developed in BA 204(3500). Special emphasis is given to the development of top management policies and their application toward complex problems of finance. Techniques for identifying and dealing with these problems before they become acute will be investigated. Cases will be integrated with appropriate outside reading.

351(3502) Computer Applications in Finance (3)
Prerequisites: BA 103(1800), 204(3500), one 300-level finance course, and a 2.0 campus GPA. Financial problem solving and applications on the microcomputer. A project-oriented course with an emphasis on micro-sed finance projects: present value/IRR analysis, duration, immunization, portfolio optimization, leasing, capital budgeting, financial forecasting, options, and futures.

352(3522) Security Analysis (3)
Prerequisites: BA 334(3520) or 350(3501); a minimum campus GPA of 2.0 and consent of professor. The goal of the course is to provide practical experience for students wishing to become stock analysts for national brokerage firms and the investment industry. Each student will have primary responsibility over one small, publicly traded St. Louis Company. The student is expected to become an expert on this company, its products, its financial condition and performance, competitors and the industry as a whole. This level of expertise is developed by visiting the company's facilities, interviewing executives, analyzing financial statements, and reading relevant research reports including current business periodicals. Each student is required to prepare a comprehensive written report on his or her assigned company.

355(3540) Financial Services Industry and Instruments (3)
Prerequisites: BA 204(3500) and 2.0 campus GPA. The theory of financial services, instruments, and markets is discussed. In this framework, the valuation consequences of money and capital markets, corporate control, complex contracting, and regulatory environment are developed. Topics also include hedging, interest rate risk, deposit insurance, and financial instruments.

356(3541) Commercial Bank Management (3)
Prerequisites: Econ 52(1002), BA 204(3500), and a 2.0 campus GPA. Corporate finance and microeconomics are applied to matters of importance to commercial bankers. Among the subjects treated are bank-asset portfolio construction, lending policies, liabilities management, bank capital structure, short-run cash management, financial market rates and flows, and quantitative models for bank management. Commercial bank management is analyzed from an internal viewpoint in terms of what bank managers should look for in asset management and why; what market conditions they should be aware of; and what techniques they can use to meet changing economic and financial conditions.

375(4350) Operations Research (3)
Prerequisites: A minimum campus GPA of 2.0(Math 100(1100) and BA 252(3320)) or [Math 255(3000)]. Applications of the theories and techniques of operations research to problems of business, government, and industry, with emphasis on the construction and utilization of quantitative decision models.

380(3580) International Finance (3)
Prerequisites: BA 204(3500) and a 2.0 campus GPA. A study of international financial markets, instruments, portfolio strategies and international financial management. Topics will include international risks, foreign diversification, foreign investment, foreign exchange determination and international working capital management issues. Derivatives are explored as instruments to hedge foreign exchange risk exposure, and special markets are evaluated in the international corporate/investments setting. Cases and/or outside readings may be used to emphasize inter-related issues.
385(4354) Operations Research II (3)
Prerequisites: A minimum of a 2.0 campus GPA, BA 375(4350) and either BA 250(3300) or Statistics 132(1320). Topics of special interest including mathematical programming, stochastic decision-making, digital simulation, game theory, and other selected techniques. (Formerly Mathematical Techniques. (Formerly Mathematical

390(4220) Business Assessment Testing (0)
Prerequisite: Concurrent enrollment in BA 391(4219). A one-time lab during which a major field exam in business is administered. Course graded on a Satisfactory/Unsatisfactory basis. Satisfactory grade required for graduation.

391(4219) Strategic Management (3)
Prerequisites: Senior standing and BA 204(3500), 206(3700), 210(3600), a minimum campus GPA of 2.0; and concurrent enrollment in BA 390(4220). This is a capstone course drawing on the subject matter covered in prerequisite courses. Emphasis is on the formulation and implementation of corporate, business and functional strategies designed to achieve organizational objectives. Topics include the role of top management, globalization of business and ethical perspectives. Case studies and research reports may be used extensively. (It is preferred that this course be taken during the student’s final semester.)

392(4614) Entrepreneurship/Small Business Management (3)
Prerequisites: BA 156(2900), 204(3500), 206(3700), 210(3600), and a 2.0 campus GPA. This integrative general management course is designed to communicate the academic principles of business management applicable to solving of problems of small- and medium-size businesses and assist in their development. This course will provide a background in the forms of business, the development of business plans and systems integration, venture capital, accounting, procurement, promotion, financing, distribution and negotiations for initial organization, and operation and expansion of the firm.

393(4689) International Strategic Management (3)
Prerequisites: A minimum 2.0 campus GPA and BA 314(3682), 316(3780) and 380(3580) or consent of the instructor. A study of the international dimensions of strategic management. Provides an introduction to the key concepts and tools necessary for international competitive analysis. Topics include the international dimensions of strategy formulation and implementation, diversification, strategic alliances, and divestment. Credit not granted for students who have taken BA 317(3680).

395(3198) Business Administration Seminar (1-10)
Prerequisite: To be determined each time the course is offered and to include a minimum 2.0 campus GPA. May be repeated for credit.

396(4288) Internship in International Business (3-6)
Prerequisites: Econ 51(1001) and 52(1002), BA 140(2400) and 145(2410), an additional 12 hours in BA, concurrent enrollment in a UM overseas program; also a 2.0 minimum campus GPA. The internship will be a supervised field experience in a business/international organization at a foreign site. Students will work for 10 weeks on projects directed by host organization supervisors in consultation with an UM-St. Louis faculty member. Prior to the field experience students will receive training that includes familiarization with the language and practices of the country’s business, the background of the host firm, and international information sources. The student will complete a written report of his/her project. Course may not be repeated for more than 6 hours credit.

Accounting (400-Level)

419(5451) Management Accounting and Auditing in Governmental and Not-for-Profit Entities (3)
Prerequisites: BA 418(5450) and Accounting 441(5411) or consent of instructor. A study of accounting for use in the public sector and in not-for-profit organizations. Cost behavior controllability, and traceability concepts for management planning and control will be investigated, as well as auditing in the public sector.

421(5402) Professional Accounting Research (3)
Prerequisite: BA 341(4401). Discussion of the research tools and methods available to resolve questions concerning accounting standards and practices. Critical analysis of topics of current interest and importance in accounting practice.

422(5452) Seminar in Governmental and Non-Profit Accounting (3)
Prerequisites: BA 418(5450). Consideration of the positions of authoritative groups concerning accounting theory and practice for governmental and nonprofit entities. Evaluation and critical analysis of these positions in view of current accounting literature and research finding.

431(5441) Tax Research (3)
Prerequisite: BA 347(3441) or consent of instructor. A discussion of the research tools and methods available to resolve questions pertaining to the tax laws. Addresses techniques for locating, verifying, and evaluating authority. Students will be expected to complete a number of tax research and writing problems throughout the semester. A basic understanding of the federal income tax law is presumed.
432(5442) Taxation of Estates, Gifts, and Trusts (3)
Prerequisites: BA 347(3441) and Accounting 431(5441),
or consent of instructor. Consideration of the transfer tax
systems in general; the elements of the gross estate
(includable versus nonincludible property), deductions
(including the marital deduction) and credits; the gift tax
and what it embraces; basic estate planning considerations;
and income taxation of grantor and nongrantor trusts.

433(5443) Taxation of Corporations and Shareholders
(3)
Prerequisites: BA 347(3441) and Accounting 431(5441),
or consent of instructor. Addresses tax aspects of the
formation, operation, and liquidation of a corporation, as
well as changes in the corporate structure through division
or reorganization. Topics include establishment of the
 corporate structure, distributions to shareholders, and stock
 dividends and redemptions.

434(5444) Taxation of Partnerships and Partners (3)
Prerequisites: BA 347(3441) and Accounting 431(5441),
or consent of instructor. Addresses tax aspects of the
formation, operation, and termination of a partnership.
Topics include special allocations and disposition of a
partnership interest. Compares partnerships with
Subchapter S corporations.

435(5445) Tax Practice and Procedure (3)
Prerequisite: BA 347(3441) or consent of the instructor.
Addresses the audit process; practice before the Internal
Revenue Service; administrative appeals; the notice of
deficiency; waivers and extensions; amended returns and
claims for refund; statute of limitations on deficiencies and
overpayments; and taxpayer and tax return preparer
penalties.

436 (5446) Advanced Topics in Taxation (3)
Prerequisites: BA 347(3441) and Accounting 431(5441),
or consent of instructor. Addresses various topics selected
by the instructor, such as property transactions,
compensation plans, charitable contributions, the
alternative minimum tax, and tax planning.

439(6441) Seminar in Taxation (3)
Prerequisite: At least nine hours of 400-level tax courses
including Accounting 431(5441) or consent of the
instructor. Addresses tax policy topics drawing on
literature from accounting, economics, and public finance.
Other topics of current interest will be selected by the
instructor.

440(5400) Financial and Managerial Accounting (3)
This course provides an introduction to accounting, with
emphasis on preparation of financial statements for
external parties (financial accounting) and accumulation of
cost information to aid internal planning and control
(managerial accounting). Topics covered include
measurement of assets and liabilities, revenues and
expenses, the accounting cycle, financial statements, cost
terminology, cost behavior, product costing, and relevant
costs for decision making. This course provides the
necessary background for Accounting 442
(Financial Reporting Analysis).

441(5411) Concepts in Management Accounting (3)
Prerequisites: Math 100(1100) or Econ 301(3150) with a
minimum grade of "C" and Accounting 440(5400). The
development, interpretation, and uses of accounting reports
and supplementary information for management planning,
control, and decision making. Emphasizes the application
of relevant cost behavior, control, and traceability concepts
in the preparation of internal accounting reports, with a
secondary emphasis upon product costing techniques as
appropriate to financial accounting needs. Topics include
break-even analysis, operational budgeting, direct costing,
absorption costing, standard costs and variance analysis,
business segment analysis, responsibility accounting,
distribution cost accounting, and gross profit analysis.

442(5401) Financial Reporting & Analysis (3)
Prerequisites: Accounting 440(5400) or the equivalent.
This course builds on the foundations covered in
Accounting 440(5400) emphasizing in-depth analysis of
published financial statements. The course begins with
discussion of the role of financial accounting information
in capital markets and contracting, and continues with
examination of a number of specific accounting issues.
Students are encouraged to look behind the numbers to
better understand the economics of the underlying
transactions, and properly interpret what the reported
numbers mean about a firm’s future prospects.

443(5480) International Accounting (3)
Prerequisites: BA 340B(3402). Accounting practices for
international businesses. Discussion of comparative
financial accounting practices, the development of
international accounting standards, and managerial
accounting practices related to multinational operations.

445(5403) Seminar in Financial Accounting (3)
Prerequisite: BA 341(4401). A study of current financial
reporting issues. Analysis of current problems and
approaches pertaining to the communication of corporate
financial information to the U.S. and international
investment communities.

446(5435) Seminar in Auditing (3)
Prerequisites: BA 348(4435) or permission of instructor. A
study of advanced auditing and attestation issues, with an
emphasis on operational auditing. Topics include
professional ethics, risk analysis, internal control, fraud
detection, analytical procedures, determining and assessing
operational objectives, and reporting and implementing
audit findings.
447(5412) Accounting Systems for Management Planning and Control (3)
Prerequisites: Accounting 441(5411) and LOM 481(5300), or permission of instructor. A study of advanced managerial accounting techniques useful in facilitating the planning and control process in modern organizations. Emphasis on the implementation and administration of these techniques, their integration with management information systems, and the organizational role of the corporate accountant.

448(5491) Seminar in Advanced Theory and Contemporary Issues in Accountancy (3)
Prerequisite: Accounting 445(5403) and LOM 481(5300). Examines the theory underlying accounting practice. The course includes an in-depth analysis of contemporary developments in financial accounting with a succinct overview of accounting research paradigms.

449(5436) Systems Auditing (3)
Prerequisites: Accounting 440(5400), IS480(6800), or consent of instructor. Study of techniques involved in the control and audit of computer-based accounting information systems. Emphasis on the review of internal controls at operational and administrative levels and on computer-assisted audit techniques.

Business Administration (400-Level)

405(5100) Managerial Communication (3)
An analysis of business writing and speaking, and the communication conventions common in organizations. Emphasis is placed on developing skills critical to career advancement and necessary for effective organizational functioning. A second goal is to prepare students for assignments in other business courses. This course must be taken within the first 12 credit hours of study, preferably in the student's first semester.

406(7020) Seminar in Business Administration Teaching (1)
Prerequisites: Admittance into the Ph.D. Program. This course explores the practice and pedagogy of teaching business administration.

407(7021) Philosophical Foundations of Business Administration (3)
Prerequisites: Admittance into the Ph.D. Program. This course investigates the ontological and epistemological assumptions of business administration research.

408(5000) Economics for Managers (3)
The first portion of this course introduces microeconomic analysis of consumers, firms, and government. The concepts and tools of economic analysis are applied to the production and distribution functions of organizations. The last portion is devoted to the macroeconomic influence of capital markets, the influence of interest rates, inflation, and the business cycle.

410(5001) Managerial Economic Analysis (3)
Prerequisites: BA 408(5000) or Econ 51(1001) and Econ 52(1002). Microeconomic analysis of consumers, firms, and government. The concepts and mathematical tools of economic analysis are applied to the production and distribution functions of organizations.

411(5002) Analysis of National Economic Environment (3)
Prerequisites: BA 408(5000) or Econ 51(1001) and Econ 52(1002). The character and functioning of the national economic system; analyzing and forecasting fluctuations in national income and product, employment, and prices; the influence of monetary and fiscal policies. Emphasis is on the acquisition of knowledge concerning forces affecting all business firms.

412(5900) Law, Ethics, and Business (3)
Analysis of the relationship between law and business with emphasis on the ability of, and extent to which, governments regulate business activities. Topics covered include the employer-employee relationship, protection of consumers, antitrust regulation, and securities law. Also discussed are ethical issues confronting management of the modern business enterprises.

415(5905) Societal, Environmental, and Management Decisions (3)
Prerequisites: BA 408(5000). An examination of the external relationships of a business enterprise with the broad and diverse interests of society. These are government and social forces that sometimes operate counter to the potential dictates of theoretical internal economic policies for an individual organization. The primary objective is to examine the increasingly complex set of interrelationships among business, government, other economic groups, and "the public." A series of major current problems, chosen to raise some of the major issues involved in these interrelationships, and in particular to explore the development of public policy on such problems.

417(5280) International Business Operations (3)
Prerequisite: FIN 416(6580). Functional management within multinational corporations; case studies of operations abroad; and focus on managerial decision making.

418(5450) Governmental Budgeting and Financial Control (3)
Prerequisite: Completion of the MPPA Computer Proficiency Exam OR demonstrated proficiency with spreadsheets. (Same as Public Policy Administration 418(6180).) A study of municipal and federal financial control and budgeting procedures with emphasis on public policy. The impact of financial control on top management decisions and the effect of budget strategies on the allocations of public funds.
420(5198) Seminar in Business Administration (3)
An intensive study of a specific area of business administration of some specific business or economic phenomenon, or a specific problem or theory. Several different courses may be offered under this course number.

428(5290) Current Topics in Business Administration
Examination of a Business Administration topic of current interest. Instruction by regular graduate faculty, frequently supplemented by outside authorities (practicing managers, government officials, consultants, visiting faculty, etc.). Course may be taken three times for credit.

430(5299) Individual Research (1-10)
Prerequisite: Consent of instructor and graduate director. Special individual research topics under the guidance of a specific professor.

451(6501) Advanced Financial Management (3)
Prerequisites: FIN450(6500) and LOM 481(5300). Exposure to recent financial management theory through selected readings. Financial management problems are considered by the use of cases and simulation models. An original research project under the supervision of the instructor is required.

455(6520) Security Analysis (3)
Prerequisites: FIN450(6500) and LOM 481(5300). An in-depth study of techniques used in evaluating various financial assets as investment opportunities. Financial assets studied include common stock, preferred stock, and fixed income securities. Other related topics such as sources of investment information and current market trends are discussed.

465(6540) Capital Markets and Financial Institutions (3)
Prerequisite: FIN450(6500) The theory of financial intermediation is discussed in the context of banks, savings and loans, public and private insurance companies, and investment banking. In this framework, the relationship with money and capital markets, markets for corporate control, complex financial contracting, and regulatory environment is developed.

457(6521) Introduction to Derivatives (3)
Prerequisite: FIN450(6500). An in-depth study of advanced risk management techniques utilizing futures, forwards, options, swaps and synthetic securities. A broad study of speculative market characteristics will be reviewed in conjunction with a variety of financial innovations. Portfolio management theories combined with mathematical models will be utilized to demonstrate the effects of hedging techniques and portfolio insurance.

458(6541) Commercial Bank Management (3)
Prerequisite: FIN450(6500). This course explores the various bank management techniques required to manage a modern commercial bank in a rapidly changing environment. Topics include asset and liability management, capital adequacy, bank holding companies, profitability, and bank market structure and regulation.

459(6590) Seminar in Finance (3)
Prerequisite: FIN450(6500). This course incorporates a wide range of advanced topics in finance including, but not limited to, an evaluation of various financial assets as investment opportunities, trends in capital markets, derivatives and management of financial and non-financial firms.
Information Systems (400 Level)

406 (7020) Seminar in Business Administration
Teaching (3)
Prerequisite: Admittance into the Ph.D. program. This course explores the practice and pedagogy of teaching business administration.

407 (7021) Philosophical Foundations of Business
Prerequisite: Admittance into the Ph.D. program. This course investigates the ontological and epistemological assumptions of business administration.

423A (6805) Applications of Programming for Business Solutions (3)
Prerequisite: IS480 (6800). This course provides a study of business-oriented programming. A programming language will be introduced and discussed in detail. Emphasis will be on program definition and the use of such programs in business-oriented applications.

423B (6806) Managerial Applications of Object-Oriented Technologies (3)
Prerequisite: IS423A (6805). This course deals with business-oriented programming in an object-oriented environment. The emphasis will be on program definition, and tools and development in a client-server environment. The course will involve the study of an object-oriented language in addition to object-oriented methodologies for systems development.

423C (6807) Business Programming and File Systems (3)
Prerequisite: IS423A (6805). The course provides a study of business-oriented programming in a traditional centralized environment. The programming language COBOL will be introduced and studied in detail. Emphasis will be on program definition and the use of file structures in business-oriented applications.

423D (6808) Internet Programming for Business (3)
Prerequisites: IS423A (6805). Focus on web-based applications development for business. It will begin with the fundamentals of web-based computing, including web client and server interaction, the MIME standard, server and client data frame headers, the CGI standard, and error conditions as they pertain to business applications. In addition, JAVA will be introduced to build web-based GUI-interfaces and back-end servers. Finally, business applications issues such as firewalls, proxy servers and data encryption using secure servers will be included.

424A (6892) Seminar in Current Management Information System Topics (3)
Prerequisite: IS480 (6800) and IS485 (6825) (may be taken concurrently). Advanced topics of current interest in management information systems. Content to be determined each time the course is offered. May be repeated for credit.

424B (6891) Seminar in Management Information Systems (3)
Prerequisite: IS480 (6800). Topics of current interest in management information systems. Topics may include international information systems, electronic commerce, decision support systems, information systems strategy, telecommunications, and information systems management.

424C (6838) Business Process Design (3)
Prerequisites: IS480 (6800) and IS485 (6825) (may be taken concurrently). This course presents the concepts of process design for improving customer service and satisfaction. Issues related to characteristics, goals, benefits and costs of enterprise-wide design, and the role of information technology during the design process will be discussed. Further topics may include: computer-based modeling tools for process design, total quality management and quality circles, and organizational learning.

424D (6881) Management of Transnational Information Systems (3)
Prerequisites: IS480 (6800) and IS485 (6825) (may be taken concurrently). The course presents concepts of managing global information technology. Issues covered include: global information technology, systems development, electronic data interchange, cross-border data flows, and national and international information structures. Further topics may include information technology enabled economic development, global outsourcing of information systems services, and social, organizational and ethical implications.

425 (6831) Advanced MIS Applications (3-6)
Prerequisite: IS488 (6840) or permission of instructor. The course requires a project through which the student applies MIS concepts to a real problem; a written, professional quality report will be required. The course material must build upon, not duplicate, material in the MIS curriculum. The course may be repeated for credit with the permission of the MS/IS area. Consent of the MS/IS area for the topic and number of hours is required.

426 (6837) Management of Client/Server Computing (3)
Prerequisite: IS496 (6836). This course explores a wide range of topics necessary for the management of client/server computing technology. Students will explore the business advantage and opportunities that client/server systems can provide an organization. In addition, the course will introduce topics of importance for implementing technology in an organization. Finally, the course will provide a framework for understanding the diverse technical components of client/server technology, technical standards and their implications for interoperability of components.
480(6800) Management Information Systems (3) 
Prerequisite: Econ 301(3150). (Same as Public Policy Administration 480(6800). An overview of management information systems is presented, including IS managerial concepts and hands-on exposure to technology. Concepts include alignment of information systems strategy with organizational strategy, MIS components and organizational structures, issues in the design and implementation of systems, and understanding the role of information systems in organizations. Students are exposed to several technologies, including the information superhighway, application software packages, and a programming language.

485(6825) Management Information Systems: Theory and Practice (3) 
Prerequisites: IS480(6800). The course presents and analyzes critically current MIS topics in the context of business organizations. Issues may include: organizational and behavioral concerns, the fit between information systems and organizations, information systems development and implementation, software evaluation and procurement, systems performance, and information systems planning and control.

488(6840) Information Systems Analysis (3) 
Prerequisite: IS423A(6805). The theory and practice of structured analysis are presented. Topics may include: traditional vs. structured analysis methods, requirements analysis, user/analyst interaction, investigation of existing systems, human/ machine interfaces, CASE tools, and workbenches.

489(6845) Database Management Systems (3) 
Prerequisite: IS423A(6805). The course introduces the concepts of database management systems for business applications. Issues in database architecture, design, administration, and implementation are covered. Projects are assigned on a mainframe DBMS and a microcomputer-based DBMS to illustrate the concepts and applications.

490A(7890) IS Research Seminar (3) 
Prerequisites: IS480(6800); Admittance into the Ph.D. Program. Analysis of the research problems, approaches, and findings of Management Information Systems Research. May be repeated for credit when the subject matter is different.

490B(7891) Quantitative Research Methods in IS (3) 
Prerequisites: IS480(6800); Admittance into the Ph.D. Program. Analysis of research design and validity of quantitative methods applied to the study of Management Information Systems, including laboratory experiments, sample surveys, and field experiments.

490C(7892) Qualitative Research Methods in IS (3) 
Prerequisites: IS480(6800); Admittance into the Ph.D. Program. Analysis of research design and validity of qualitative methods applied to the study of Information Systems, including case studies, action research, and ethnomethodology.

490D(7893) Special Topics in IS (3) 
Prerequisite: Consent of instructor; Admittance into the Ph.D. Program. In-depth analysis of special topics in IS research. May be repeated for credit when the subject matter is different.

491(6835) Electronic Commerce (3) 
Prerequisite: IS480(6800). Electronic commerce is a modern business methodology that addresses the needs of organizations, merchants, and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery. In this course, students will examine critical information technologies that provide a basis for electronic commerce and their application in a variety of sectors and industries. It will begin with coverage of the tools, skills and business concepts that surround the emergence of electronic commerce and the consequences of applying these information technologies to difference commercial processes from both an operational and strategic perspective. We will also explore several of the problems surrounding electronic commerce such as security, privacy, content selection and rating, intellectual property rights, authentication, encryption, acceptable use policies, and legal liabilities.

492(6832) Information Systems Strategy (3) 
Prerequisite: IS485(6825). This course presents the management of computer-based information resources in the context of business organizations. Issues may include: management strategies and policies for improving organizational productivity, measurement, evaluation and acquisition of management information services, office automation, end-user computing, computer use in international environments, social organizational perspectives and ethical implications. The course will be taught using cases.

495(6850) Information Systems Design (3) 
Prerequisites: IS488(6840) and IS489(6845). This course builds upon the analysis techniques presented in IS488(6840). It requires the student, usually working in a group, to design and implement a system in a real-world environment. Advanced design concepts are presented to support the students in their project work.

496(6836) Telecommunications: Design and Management (3) 
Prerequisite: IS480(6800) (may be taken concurrently). The topic of telecommunications is addressed from both a technical and managerial viewpoint. In particular, the course will address issues such as communications components and services, local area network architecture, managerial implementations, organizational issues, and cost/benefit analyses.
497(6833) Decision Support Systems (3)
Prerequisite: LOM481(5300). Applications of decision support systems in a business environment are studied. Issues pertaining to maintenance of data, construction of models and provision of supporting technology are explored. Students will analyze, design and implement a managerial decision support system using current development tools.

498(6834) Fourth Generation Languages and End User Computing (3)
Prerequisite: IS423A(6805). The course presents fourth generation languages and covers managerial issues of end-user computing. A specific fourth generation language will be introduced and programming applications will be assigned. In addition, the course will explore the problems of providing and managing micro-to-mainframe links, end-user software packages, and security/confidentiality issues.

499(6890) Management Information Systems Thesis Research (1-6)
Credit to be awarded upon successful defense of thesis.

Logistics and Operations Management (400 Level)

408B(5330) Business Logistics Systems (3) Prerequisites: LOM483(5320) (may be taken concurrently). Analysis of business logistics systems and their role in supply chain management. Covers both design and operation of logistics systems and their components. Topics may include network design, facility location, transportation, vehicle routing, inventory management, customer service and logistics information systems.

408C(5322) Lean Production (3) Prerequisites: LOM483(5320). Study of lean production philosophy and techniques in manufacturing and service operations. Topics include process analysis and continuous improvement, set-up reduction, total productive maintenance, kanban scheduling, cellular production, work teams, supplier relations, quality management, and the environmental aspects of production. Cases and a course project will be used to integrate and apply the course material.

408D(5381) International Logistics and Operations Management (3) Prerequisites: LOM483(5320). A study of international logistics and operations management strategy, planning and operations. Topics may include multinational logistics and supply chain strategies, global network design and sourcing, international transportation, distribution and operations, import-export, risk management, etc.

408E(5332) Logistics and Supply Chain Modeling (3) Prerequisites: LOM483(5320) and LOM 408B(5330). Application of leading software packages utilized in logistics and supply chain management. This course covers the economic tradeoffs involved in decisions, data requirements, operating parameters, and applications of software packages to traditional logistics and supply chain problems, such as route analyses, warehouse location, supply chain design, cross-docking, and coordinated service center location and operational strategies. This "hands on" course is designed to prepare students for higher-level supply chain analyses and consulting work.

408F(5333) Topics in Logistics and Supply Chain Management (3)
Prerequisites: Consent of instructor. This course covers topics in logistics and supply chain management. This may include subjects such as domestic and international transportation, transportation economics, supply chain strategy, logistics system design, procurement, reverse logistics, e-logistics, and information systems for logistics and supply chain management.

408G(5334) Internship in Logistics and Supply Chain Management (1) Prerequisites: Consent of instructor. Students receive practical experience in the area of logistics or supply chain management. The internship is supervised by a professional in the host organization in consultation with a faculty member.

414(5301) Introduction to Geographic Information Systems (3) Prerequisites: LOM481(5300) or equivalent, and consent of instructor. Geographic information systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation and maintenance of geographically referenced data. This course includes extensive use of GIS software and provides a foundation in using GIS for spatial analyses. A range of examples is used to emphasize use of GIS as a tool to support analysis and decision-making.

428(7350) Operations Research-Deterministic Models (3) Prerequisites: Math 345(4450) or equivalent. (Same as Math 435(5350). A study of deterministic methods and models in operations research. This course provides an introduction to operations research and focuses on model building, solution and interpretation of results. Topics include formulation, solution, duality and sensitivity analysis in linear programming, integer programming, network flow models, nonlinear optimization, and dynamic programming.

429(7352) Operations Research-Stochastic Models (3) Prerequisites: Stat 320(4200) or equivalent. (Same as Math 436(5360). A study of stochastic methods and models in operations research. Provides an introduction to probabilistic models for decision making under uncertainty. Topics include stochastic processes, queuing theory and models, probabilistic inventory theory and models, Markovian decision problems, simulation and reliability.
430(5326) Quality Management (3)
Prerequisite: LOM481(5300) or Stat 320(4200) or consent of instructor. (Same as Math 437(5370). An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approaches are discussed. Topical coverage includes the construction and interpretation of control charts, graphical methods, quality function deployment, robust experiments for product design and improvement, mistake-proofing (poka yoke), the Deming approach, Baldrige award criteria, quality cost audits, worker empowerment and reward systems. Cases involving both business processes and physical processes are used to illustrate successful quality improvement efforts.

481(5300) Statistical Analysis for Management Decisions (3)
Prerequisites: IS480(6800) (may be taken concurrently) and Econ 301(3150) with a minimum grade of a C. The role of statistical evidence in the formation of inference and in the selection of strategies in solving business problems is developed. Probability and probability distributions are studied as a basis of statistical inference. An introduction to multivariate analysis is provided, which includes analysis of variance and regression methods.

482(5350) Management Science Methods (3)
Prerequisite: LOM 483(5320). This course provides a working knowledge of management science techniques. It emphasizes analytical approaches to solving business problems, construction of mathematical models, and manipulation of model variables for managerial decision-making. Topics include mathematical programming, including integer and network models, heuristics, and simulation models.

483(5320) Production and Operations Management (3)
Prerequisites: IS480(6800) and LOM Prerequisite: LOM481(5300). This course discusses issues related to the creation and delivery of goods and services. Topics include the design of production processes, the layout and location of facilities, forecasting, scheduling, inventory control, queuing, materials planning, and quality control. Analytical techniques such as linear programming are used in studying these problems.

484(7310) Statistical Modeling (3)
Prerequisites: LOM481(5300) or consent of instructor. This course covers advanced statistical topics in a business context including linear models, multivariate statistics, factor analysis, discriminant analysis, canonical correlation and nonparametric statistics.

486(5312) Advanced Statistical Methods for Management Decisions (3)
Prerequisite: LOM481(5300) A study of statistical methods applicable to specialized areas of statistical analysis. Topics include Markov Processes, distribution-free tests, sampling theory and methods, experimental design, time series analysis, and spectral analysis.

487(6360) Advanced Logistics and Operations Management Applications (3)
Prerequisite: LOM483(5320) and consent of instructor. Application of analytical techniques to business problems in logistics, operations and supply chain management. After a brief review of techniques and an examination of typical applications reported in the literature, the major portion of the term is spent in analyzing and solving an actual business problem. A team approach may be used, with groups of students responsible for finding and solving a problem. Primary emphasis is placed on the use of analytical techniques to solve management problems.

489(6354) Advanced Operations Research Topics (3)
Prerequisite: Consent of instructor. Advanced topics from such areas as mathematical programming, stochastic processes, decision theory, or game theory are studied in depth.

494(6395) Seminar in Logistics and Operations Management (3)
Prerequisite: LOM 483(5320). Topics of current interest in logistics and operations management. Topics may include just-in-time and lean production, quality management, manufacturing and service systems, transportation and logistics, quantitative management tools, etc.
Management (400-Level)

419(5612) Negotiating Workplace Conflict (3)
Prerequisites: PPA/MGT 460(6600), and Graduate Standing (Same as Public Policy Administration & Sociology 468(5451). Examines conflict and cooperation between individuals, groups, and organizations over the control of work. A central theme is how this conflict is expressed, controlled and resolved. Students will participate in exercises to learn the basics of two-party negotiations.

460(5600) Organizational Behavior and Administrative Processes (3)
(Same as Public Policy Administration 460(6600). The theoretical and research contribution of the behavioral sciences to management and administration are examined and applied to selected organizational situations. Areas to be considered from the standpoint of both individual and organizational performance are communication, motivation, conflict, decision-making, goal setting, leadership, organizational design, climate, development, and control. Utilizing a systems perspective, the course attempts to develop in each student an ability to analyze and solve organizational problems.

461(5621) Managing Human Resources (3)
Prerequisite: MGT460(5600). In-depth examination of selected human resource management issues from a contemporary manager’s viewpoint. Topics examined include: personnel planning; employee selection; performance appraisal, training, and development; compensation; legal issues; discipline; and labor relations. The course examines these topics as they relate primarily to operational activities in organizations.

462(5611) Advanced Organizational Behavior and Administrative Processes (3)
Prerequisite: MGT460(5600). An in-depth examination of selected organizational and individual theories affecting behavior and operating performance. Organizational structure and design, formal and informal organization, decision making, communications, and motivation are analyzed for their organizational impact. The course seeks to develop further the ability to analyze and evaluate organizational processes and individual behavior.

463(5624) Organizational Training (3)
Prerequisite: MGT460(5600) or MGT461(5621) or permission of department. An intensive study of training and developmental methods/issues in organizations. Topics include needs analysis, learning theory, training techniques, evaluation, and management development. Other topics include memory, training objectives, and training facilities. Projects and exercises are used to supplement reading and lecture.

464(5623) Compensation and Benefits (3)
Prerequisites: MGT461(5621) and LOM481(5300). An in-depth study of compensation and benefit programs in organizations. Topics include job evaluation, incentive systems, performance appraisal, and employee benefits. Discussion of relevant laws, such as the Equal Pay Act, is also provided.

465(5622) Union-Management Relations and Collective Bargaining (3)
Prerequisites: MGT460(5600) and BA 412(5900). Primary concern is with the setting and the dynamics of contract negotiation and administration. Emphasis is on the development of insight and understanding of the forces affecting the decisions of the parties to a labor contract within the context of the social, political, and economic environment of the organization. A dynamic approach is taken to examine difficulties that arise in attempting to administer a collectively established relationship between employer and employee.

466(5625) Selected Topics in Human Resource Management (3)
Prerequisites: MGT461(5621) and LOM481(5300). This course provides an advanced treatment of selected human resource management topics. Primary focus is on topics such as job analysis, pre-employment screening devices, test validation, and civil rights laws. Other topics, such as performance appraisal, recruitment, promotions, and terminations may be covered. Various class projects may be assigned to supplement readings, lectures, and discussion.

467(5613) Dynamics of Interpersonal Relations (3)
Prerequisite: MGT460(5600) or academic background in general psychology. The self-concept, personality dynamics, and mechanisms of adjustment. Catalysts and barriers to effective communication. Examination of the functional relationship between ego-needs, perceptual distortion, and stereotypical thinking. Roleplaying, the resolution of role-conflict, and objective self-evaluation. The development of cooperation and trust as a prerequisite to effective human relations.

468(5689) International Business Strategies (3)
Prerequisites: BA 408(5000) and ACC 440(5400). This course focuses on those managerial issues, which follow from the definition and implementation of corporate strategy for worldwide operations, as distinguished from purely domestic firms or those only marginally involved in international activities. It aims to develop an appreciation for the unique competitive, sociocultural and political environments in which international business takes place and the skills required to deal with these changes.
Seminar in Management (3)  
Prerequisite: MGT460(5600). Topics of current interest in management. Possible topics include, human resource management, international management, and entrepreneurship.

Marketing (400-Level)

Supply Chain Management (3)  
Prerequisites: Consent of Instructor. This course addresses supply chain management and its implications, with a focus on what firms can do to maintain competitiveness in the quickly changing business landscape. Topics may include, but are not limited to, value chain analyses, marketing business-to-business, supply chain analytics, procurement, production, logistics, and inventory management within supply chains.

Contemporary Marketing Concepts (3)  
Prerequisite: BA 408(5000). Designed for students with no prior course work in the field of marketing. A wide spectrum of marketing institutions and activities is covered. The impact of marketing on the total firm, the economy, and society in general is assessed. The course is intended to develop and organize the fundamental marketing concepts necessary to an analytical study of consumer behavior, the economic environment, and four managerial aspects of marketing. The acquisition and utilization of marketing research data for problem solving is stressed. Relation and integration of basic marketing knowledge to the successful development of sound marketing policy, planning, and strategy is developed.

Marketing Planning and Strategy (3)  
Prerequisite: Marketing 470(5700). Emphasizes the development of a total marketing program through an analytical study of the marketing mix, the diagnosis of the business situation, along with the influence of exogenous variables and the development of an effective campus marketing strategy. Stresses importance of an integrated marketing plan and utilize modern decision-making tools. Supplementary readings, journal articles, and current periodicals are used to place the theoretical framework of the course into the contemporary environment of the market place.

Seminar in Marketing (3)  
Prerequisite: Marketing 470(5700). This course addresses advanced problems in contemporary marketing. Topics may include, but are not limited to, marketing strategy, marketing communications and advertising, product management, consumer behavior, channels of distribution, international marketing, and marketing research.

Consumer Motivation and Behavior (3)  
Prerequisite: Marketing 470(5700). An analysis of the socio-psychological foundations of consumer behavior including personality differences, needs and wants, status symbols, social change and mobility, and fads and fashions. Consumer spending and saving habits, product preferences, leisure-time patterns, shopping behavior, and motivation research also are examined for their impact on advertising, selling, and marketing management.

Marketing Communications (3)  
Prerequisite: Marketing 470(5700). Deals with managerial decision making by placing particular emphasis on assimilating and integrating all forms of marketing communication in the development of promotional policies, plans, and procedures. Course approach is analytical rather than descriptive in investigating the areas of advertising, public relations, sales management, packaging, and other forms of demand stimulation.

Product Planning and Pricing (3)  
Prerequisite: Marketing 470(5700). A study of product management focusing on new product development. The steps of the new product development process are covered in detail. Current issues in new product research are discussed. Projects are emphasized and involve the application of several of the key techniques to the student’s own new product ideas. Selected pricing topics are also covered, such as measuring consumer price sensitivity.

Marketing and Business Research (3)  
Prerequisites: Marketing 470(5700) and LOM 481(5300). A broad approach to marketing research as a model for acquiring, retrieving, and analyzing decision-making information. Includes market measurement, evaluation of sales, and cost effectiveness, sales forecasting, and primary marketing research studies aimed at solving specific problems. Emphasis is placed also on building a theoretical and analytical framework to provide flexibility in the design of marketing experiments and in judging recent research innovations.

Marketing Channel Strategy (3)  
Prerequisites: MKT470 and LOM483. A study of the marketing institutions involved in the distribution of goods and services, industrial and consumer markets, as well as the establishment and integration of marketing channels. The planning and analysis of the macrodistribution and microdistribution systems which contribute to creation of optimal time and place utility. Some attention is paid to quantitative applications to marketing situations including simulation and logistics.
College of Education
College of Education

Accreditation

The University of Missouri-St. Louis, through the College of Education, is accredited by the National Council for Accreditation of Teacher Education for the preparation of early childhood, elementary and secondary school teachers and school service personnel.

Course Designations in the College of Education

The following abbreviations are used to indicate instructional areas in the course listings and descriptions in the College of Education.

Adult Education Courses (Adu Ed)
Counselor Education Courses (Cas Ed)
Early Childhood Education Courses (Ech Ed)
Educational Administration Courses (Ed Adm)
Educational Foundations Courses (Ed Fnd)
Educational Psychology Courses (Ed Psy)
Educational Research and Evaluation Methods Courses (Ed Rem)
Educational Technology Courses (Ed Tec)
Elementary Education Courses (Ele Ed)
Higher Education (Hir Ed)
Physical Education Courses (Phy Ed)
School-Wide Education Courses (Educ)
Secondary Education Courses (Sec Ed)
Special Education Courses (Spe Ed)
Teacher Education Courses (Tch Ed)

Teacher Education

Degrees and Areas of Concentration

The College of Education offers work leading to the B.S. in education with specialization in any of the following: early childhood education, elementary education, special education, physical education, and secondary education. Courses are also available for those seeking certification for middle school. In cooperation with other schools and colleges of the university, the College of Education provides a program for students pursuing other degrees but planning for a teaching career in secondary education.

General Education Requirements

Students in the College of Education must meet university and departmental general education requirements specified for their degrees.

Academic Residence

Students must be in residence for 30 of the last 30 semester hours of credit. Courses graded on a satisfactory/unsatisfactory basis are not accepted within these last 30 semester credit hours. This residency requirement applies to students seeking a degree or teacher certification.

Education Majors

Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C (2.0). A C- grade is not acceptable.

Admission to the College of Education

Any students who designate education degree programs as their intended degree paths will have Education as their assigned academic unit. Students admitted to the College of Education must also be admitted to the teacher education program.

Application and Admission to the Teacher Education Program

All students (pre- and post-degree) who wish to become teachers must be admitted to the teacher education program regardless of the college in which they are enrolled. The admission program requires student action at the following levels.

Applications to the undergraduate teacher education program are processed through the office of teacher education. Eligibility is based upon fulfillment of the following requirements:

- Submission of qualifying scores on C-BASE in areas of English, writing, mathematics, science and social studies, as mandated by the Missouri Excellence in Education Act of 1985. Consult the undergraduate education office, College of Education, for test descriptions, cost, required scores, dates of administration, retest policies, etc. Acceptable C-BASE scores are required in addition to acceptable ACT or SAT scores. (C-BASE not applicable to students with a bachelor’s degree. Graduates of the general studies program in the UM-St. Louis Evening College, however, must take the C-BASE).
- Scores of either 20 on the ACT Composite (18, when taken prior to 11-1-89) or 800 on the SAT (verbal plus math)*.
- Completion of 60 hours of college or university courses (at UM-St. Louis or another accredited school).
- A grade point average of 2.5 or better.
- Completion of level one courses, or the equivalent, with a grade of C or better.
- Agreement to subscribe to a standard of preprofessional behavior. (This standard is available in the undergraduate education office.)
- Submission of a criminal record check and child abuse/neglect screening.

General Information

* Policy for Students Scoring Below ACT and SAT Qualifying Requirements

Students who do not achieve satisfactory scores of 20 on the ACT or 800 on the SAT may retake the test(s) until the requirement is met. Students who initially score below the required ACT score of 20 or SAT score of 800 may petition the Associate Dean for Undergraduate Education to attest that basic
educational competencies are met if the grade point average from 60 hours of college or university courses is at least 2.5. Students must produce evidence that the ACT or SAT was initially completed and a score recorded.

Students with a documented disabling condition, preventing valid test administration of the ACT or SAT, may be evaluated for basic educational competencies through appropriate testing instruments and/or procedures designated and approved by the Dean of the College of Education.

Students who do not meet the initial ACT or SAT qualifying scores may seek assistance in upgrading basic competencies through contact with one or more of the following University of Missouri-St. Louis services: Center for Academic Development; Women's Center; Counseling Service; Veteran Affairs Office; Video Instructional Program; Horizons (Peer Counseling Center).

In addition, assistance may be available through correspondence courses, University of Missouri-Columbia. Copies of this policy are available in the office of teacher education.

Application to the Student Teaching Program The application for student teaching is a two-part process which begins two semesters before the semester in which the student plans to do student teaching.

Step II Formal Application: Students:
- Must attend one of three formal application meetings offered at the beginning of each semester to receive application materials. Dates and times will be posted on the student teaching bulletin board in Marillac Hall.
- Will be admitted to the meetings by ticket only.
- Will complete and return applications within two weeks after the meetings to the office of teacher education, 155 Marillac Hall. Applications will not be accepted after the deadline.

Upon receipt, formal applications for both pre- and post degree students are checked to ensure they have met the following requirements:
- Full admission to the teacher education program for both pre- and post degree students.
- Completion of 90 hours of approved course work at the time of application.
- A cumulative grade point average of 2.5 or above by the semester before the one in which students plan to do their student teaching. The 2.5 cumulative grade point average must be maintained in order to graduate with a B.S. in education degree and/or be certified to teach in the state of Missouri.
- Grade point average of 2.5 in the teaching field (secondary education students only).
- Completion of English 210(3100), Advanced Expository Writing, or equivalent, with a grade of C- or better.
- Completion of Comm 40(1040), or equivalent, Introduction to Public Speaking, with a grade of C- or better.
- Completion of general education requirements and near completion of course requirements in the teaching major.
- A grade of C of better in all professional education courses so designated. Lists of these courses available in the office of undergraduate education and from advisers. A grade of C- is not acceptable.
- Satisfactory recommendations by student teaching area representatives in the teacher education program.
- Completion at UM-St. Louis of no fewer than 12 hours of approved course work.
- Completion of prerequisite courses in professional education and psychology.
- Completion of TB screening, police, and child abuse checks.

The student teaching experience in the early childhood, music, physical education, and special education certification programs has been strengthened by providing assignments in two different school settings. Students will be expected to do student teaching on a full-day basis for an entire semester. The student teaching experience in elementary, middle school and secondary content areas completed at one site for a full semester and students are expected to be on-site for full days throughout the
semester. The student teaching, experience must be done in residence. Secondary student teaching in science education, mathematics education, and foreign language education is offered only during the winter semester. Secondary education majors student teach for an entire semester, full days.

While enrolled in student teaching, students may not carry more than 15 credit hours. When students are admitted to student teaching, the office of undergraduate education arranges assignments with appropriate school district officials. Students should not contact school officials or teachers about possible student teaching assignments. Failure to observe this request is a basis for removal from student teaching.

Students who withdraw from student teaching at any time after being admitted for a given semester must formally reapply during the designated application period for the subsequent semester in which they plan to do their student teaching. This must be done in person in the Office of Undergraduate Education. Students who withdraw in this way three times must wait a minimum of one calendar year after the third such withdrawal before they may reapply for student teaching. At the time of reapplication they must present evidence that the circumstances which prevented them from continuing in student teaching during their last admission no longer pertain. In all instances of reapplication, students must meet the requirements in effect for the semester during which they plan to do their student teaching.

Student teachers who fail the course or are allowed to withdraw because they are failing to meet minimum requirements must wait at least one full semester and fulfill the remedial requirements established at the time of the failure or withdrawal before they may reapply for admission to student teaching. The remedial requirements will be determined by the office of teacher education after consultation with the cooperating teachers, university supervisors, and student teachers involved. The students must provide appropriate evidence that the remedial requirements have been met at the time they reapply for admission to student teaching. It is understood that meeting the remedial requirements does not guarantee success in the subsequent student teaching experience.

Student teaching during the summer semester is available through special arrangement with the undergraduate education office and will generally satisfy one-half of the students teaching requirement. Under certain circumstances, student teaching while employed a full-time teacher is allowed. Guidelines and requirements may be explored in the undergraduate education office.

For further information regarding certification, contact the undergraduate education office, 155 Marillac Hall.

Application for Degree and/or Certificate

Bachelor of Science in Education
Candidates for the B.S.Ed. degree must complete degree and certificate application forms in the Office of Undergraduate Education when they apply for admission to student teaching or during the semester before the one in which they expect to finish degree requirements. See note below on the on PRAXIS examination.

Bachelor of Educational Studies
Candidate should consult the undergraduate education office, 155 Marillac Hall for more information.

Bachelor of Science in Community Education
Candidate should consult the undergraduate education office, 155 Marillac Hall for more information.

Evening College students should complete degree application forms in the Evening College office and certification application forms in the Office of Undergraduate Education.

Bachelor of Arts
Students seeking the B.A. degree with teacher certification must complete a state certification form with the office of teacher education. See note below on the on PRAXIS examination.

Certification

In cooperation with the Missouri State Department of Elementary and Secondary Education, the College of Education is responsible for recommending teaching certificates for students completing B.S. in education degree requirements, recommending for certification students completing degrees in other UM-St. Louis colleges and schools, as well as all certification requirements, and for advising and recommending for certification those post degree students who meet requirements.

All individuals must pass the appropriate Praxis/National Teacher's Examination to meet graduation and/or certification requirements. This exam should be taken during the semester immediately prior to that of student teaching.

By completion of specified undergraduate courses at the University of Missouri-St. Louis, students may obtain certification in the following fields: elementary education; early childhood education; middle school; music education; physical education; special education: behavioral disorders (BD), educable mentally handicapped (EMH), and learning disabilities (LD); as well as the secondary education areas of biology, business, chemistry, English, foreign languages (French, German, Spanish), mathematics, physics, social studies, and speech/theater. Graduate programs leading to certification in counseling; reading; school administration (elementary and secondary
principal, school superintendent; and special education: behavioral disorders (BD), learning disabilities (LD), educable mentally handicapped (EMH), and early childhood special education (ECSE) are also available; see Graduate Studies sections for each division of the College of Education.

Graduate Studies in Education

Degrees and Areas of Emphasis
M.Ed. programs are offered in counseling, educational administration, elementary education, secondary education, and special education. Within the counseling program are the emphasis areas of elementary, secondary, and community counseling. Within the educational administration program are the emphasis areas of community education, elementary administration, and secondary administration. Within the elementary education program is the emphasis area of reading. Within the secondary education program are the emphasis areas of adult education, curriculum and instruction, and reading. Within the special education program are the emphasis areas of behavioral disorders, learning disabilities, mental retardation, and early childhood/special education. Courses are available for areas of specialization in early childhood education, physical education, educational technology, severe handicaps and higher education.

Advanced certification studies (60-hour concentrations) are offered in elementary and secondary educational administration.

Programs leading to the Ed.D. degree are offered in two broad interdisciplinary emphasis areas: learning-instructional processes and behavioral-developmental processes. Programs leading to the Ph.D. degree are offered in the areas of counseling, educational psychology, teaching-learning processes, and metropolitan leadership and policy studies.

Master of Education Degree

Admission and General Requirements
The College of Education follows Graduate School policies relating to admissions, academic standards, residency, transfer credit, time limitations, and thesis options (see Graduate Study in this Bulletin). In addition to meeting the general requirements of the Graduate School, applicants for school or community counseling must complete a separate application (see graduate studies in the Counseling division in this Bulletin). The minimum number of hours required for the M.Ed. degree is 32 except that the elementary, secondary, and community counseling emphases require 48 hours. The school has adopted a flexible policy on exit requirements, which are determined divisionally.

Advisement and Program Planning
Upon acceptance, each student can contact the Office of Graduate Education for an appointment with the graduate advisor for a first semester course of study (314)516-5483 or NAshford@umsl.edu). After acceptance, each student completes an adviser form, sent by the College of Education's Office of Graduate Studies, 123 SCCB. A faculty adviser is then appointed who counsels the student in registration and program planning. A program for master's degree form must be submitted for approval during the first half of the student's program. This form includes all course work in the program and the exit requirement. Once approved, the degree program may be changed only by petition.

Students working toward teacher and/or school service personnel certification as graduate students should complete state certification forms in the Office of Undergraduate Education, 155 Marillac Hall, one year before those requirements will be completed.

Doctor of Education Degree

The Ed.D. degree is designed primarily for the field practitioner, and is, therefore, a comparatively broad-based interdisciplinary degree. The two emphasis areas, learning instructional processes and behavioral-developmental processes, embrace two general categories of professional activities.

Learning-instructional processes place primary emphasis on the teaching-learning relationship, as well as on general planning and development of organizational programs to carry on this relationship successfully. Traditional programs that tend to fall under this heading are school administration, elementary and secondary teaching, supervision/curriculum, and reading instruction.

Behavioral-developmental processes place primary emphasis on the nature of individuals. Doctoral studies focus on such elements as learners behavioral and developmental characteristics, typical and atypical development within varied environments, motivation, strategies of behavioral change, and counseling processes. Traditional programs that tend to fall under this heading are counseling, special education, educational psychology, and measurement. Students seeking the Ed.D. degree are expected to meet the doctoral degree requirements and procedures adopted by the Graduate School. (See Doctoral Degree Requirements for details.)

Admission and General Requirements
In addition to meeting the application and admissions requirements of the Graduate School, students must submit three letters of recommendation (two letters must be from individuals with an earned doctorate, preferably prior instructors), along with a professional resume. Because enrollment is competitive, admission standards are comparatively high. Successful candidates must exhibit
significantly above-average academic records and GRE scores. In exceptional cases, other criteria may outweigh these customary indicators of probable academic success.

At least two years of teaching or other school service experiences are required for admission. Exceptions may be made by substituting a supervised internship during the first year of the program.

Admission Application
In order to ensure time for review and decision, complete applications and accompanying materials must reach the office of admissions in a timely manner. In addition, applicants are urged to request transcripts and letters of recommendation two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available.

Degree Requirements

1. Core Studies
General foundations, 12 hours from:
philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction, and supervision.
Research Methods, 12 hours:
6 hours from:
Quantitative research methodology, Ed Rem 431(6710) and above.
6 hours from:
Qualitative research methodology
Common doctoral seminars, 6 hours

2. Role Specialization, 48 hours:
Emphasis area doctoral seminars (6-12)
Emphasis area electives (15-27)
Related area (12-18)
Internship (3-9)

3. Dissertation, 12 hours

Total: minimum 90 hours, postbaccalaureate

Doctor of Philosophy Degree

The Ph.D. degree in education, offered in cooperation with the School of Education at the University of Missouri-Kansas City and the College of Education at the University of Missouri-Columbia, is designed for educators who desire directed research experience promoting scholarly inquiry in education. Four emphases are available:

Counseling
Educational psychology
Teaching-learning processes
Educational leadership and policy studies

Admission and General Requirements
In addition to meeting the application and admissions requirements of the Graduate School, students must submit:
- Three letters of recommendation (at least two from individuals with earned doctorates, preferably prior instructors).
- An original essay.
- A professional resume.
- Evidence of above-average academic records.
- GRE scores (a composite [verbal, quantitative, and analytical subtests] score of 1500 or better desired)

A favorable vote of an admission interview committee, composed of faculty in the emphasis area, is required. Admission is competitive.

Admission Application
To ensure time for review and decision, complete applications and accompanying materials must reach the office of admission in a timely manner. In addition, applicants are urged to request transcripts and letters of recommendation at least two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available.

Applicants to the Counseling emphasis are asked to apply by January 15th.

Degree Requirements

General Foundations, 9-12 hours:
Philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction, and supervision.

Research Methods, 15-18 hours:
Educational Research and Evaluation Methods (Ed Rem) 431(6710): Educational Research Methods I, and at least 12 hours from Ed Rem courses numbered above 431(6710): 6 hours in quantitative methods and 6 hours in qualitative methods.

Foreign Language Proficiency or Other Research Tools, equivalent to 6 hours

Emphasis Area (Primary Discipline) courses, 21-27 hours, with at least 16 in residence, in one of the following four areas:

1. Teaching-Learning Processes
Minimum 15 hours in cognate area
Minimum 3 hours in curriculum or instruction
Minimum 3 hours in educational psychology

2. Educational Leadership and Policy Studies
Minimum 21 hours in educational leadership, either in K-12, higher education, work, adult, or community education
settings, selected in consultation with the faculty advisor and advisory committee.

3. Educational Psychology
Minimum of 21 hour in educational psychology. Program may include courses in research and evaluation methods, school psychology, developmental psychology, cognition and learning, character education, and socio-cultural theory. Courses in the primary discipline will be selected in consultation with the faculty adviser and advisory committee.

4. Counseling
Cns Ed 414(6050), Individual Inventory
Cns Ed 420(6040), Group Procedures in Counseling
Cns Ed 442(6400), Career Information and Development
Cns Ed 495(6030), Foundations for Multicultural Counseling
Cns Ed 487(6370), Community Counseling Practicum (or Cns Ed Cns Ed 482(6270), School Counseling Practicum
Cns Ed 486(6380), Community Counseling Field Experience I (or Cns Ed 483(6280), School Counseling Field Experience I or Cns Ed 494(6378), Counseling Practicum II)
Cns Ed 487(6385), Community Counseling Field Experience II (or Cns Ed 484(6285), School Counseling Field Experience II or Cns Ed 490(6376), Internship)
Cns Ed 426(7000), Advanced Theories of Counseling and Family Therapy
Cns Ed 443(6410), Advanced Career Development
Cns Ed 455(7030), Counselor Education and Supervision
Cns Ed 475(7770), Doctoral Practicum (3 hours)
Cns Ed 496(7020), Seminar in Counseling Research
Cns Ed 498(7010), Advanced Multicultural Counseling
3 semester hours of electives in Cns Ed approved by advisory committee.

Additionally, all students should complete Cns Ed 476(7780), Doctoral Internship I and Cns Ed 477(7785), Doctoral Internship II, as the research internship; and a secondary discipline in Ed Psy consisting of at least Ed Psy 412(6310), Psychology of Learning Processes, Ed Psy 413(6113), Personality Development and Adjustment, and Ed Rem 422(6716), Individual Assessment of Cognitive Abilities.

Related (Secondary Discipline) Courses, 12-15 hours, in education or another department.

Required Exit course, 3 hours
Education 414(7414) Common Doctoral Seminar:
Research: Implementing Change in Educational Systems
Research Internship, 6-9 hours
Dissertation, 12 hours

Total: Minimum 90 hours, postbaccalaureate

Support Services
The College of Education maintains a number of offices and centers to directly assist students, faculty, and people in the metropolitan area and to support its instructional, research, and service activities.

Office of Undergraduate Education -155 MH
This office supplies advisement services for undergraduate teacher education and certification students. It coordinates the clinical experiences of the College of Education and directs the student teaching program.

Office of Graduate Education - 123 SCCB
Information about admission to, and requirements of, graduate programs in education may be obtained in this office. The office also assists students with advisement, registration, and related topics, and maintains student records.

Teacher Education Resource Center -G01
The center is designed as an instructional media laboratory. The Instructional Technology Center located in Lucas Hall also has an office in the center.

Human Services Unit -B23A ED LIB
The human services unit is a training facility for graduate students supervised by faculty in the Division of Counseling. Career counseling and assistance with vocational, adult, or adolescent developmental concerns are available to individuals in the community.

Reading Clinic -B9 ED LIB
The reading clinic provides a laboratory setting for graduate level elementary and secondary teachers who are seeking certification as reading specialists. The clinic has been providing services to the surrounding community in diagnosing and treating severe reading problems in children and adults since 1966. The clinic also serves as a demonstration and materials center for preservice and inservice teacher education, as well as a clinical research facility for the faculty.

University Child Development Center -130 SCB
The center provides university students with observation, participation, research, and similar educational and clinical opportunities; it also offers quality child care programs for children of student, faculty, staff, and community families.

Technology and Learning Center - 100 Marillac
The center provides education students and faculty a model environment for managing new methods of teaching through the newest technologies; a place to research and develop technology-enhanced teaching methods to engage K-12 students; and programs that connect school classrooms to the workplace.
Schoolwide Courses in Education (Edue)

65(1065) The University (3)
A College of Education interdisciplinary course on the principles, development, and organized structure of the university. Special emphasis will be placed on the role of the university in modern society and upon forces affecting the direction of the university and its potential for change. Methods include outside speakers, discussion groups, and laboratory research on UM-St. Louis.

204(2204) Special Topics in Education (1-3)
Prerequisites: Completion of 75 hours and consent of instructor. Examination of a special area or topic within the field of education. Topics to be considered will be announced prior to registration and may vary. For elective credit only. This course may be repeated for different topics. Not to exceed a total of six hours credit.

290(2290) Internship I (6)
Prerequisites: Senior standing and consent of instructor. Field experience in educational setting under university supervision. Includes planning, research, evaluation, and other professional activities in the student's area of concentration.

291(2291) Internship II (6)
Prerequisite: Completion of or concurrent enrollment in EDUC 290(2290). Continuation of EDUC 290(2290).

297(2297) Independent Study (1-3)
Prerequisites: Completion of 75 hours and consent of instructor. Independent study through readings, research, reports, and conferences designed to provide depth in areas of study previously introduced in education courses. For elective credit only. May be repeated. Not to exceed a total of three hours credit.

301(4301) Introduction to Microcomputers in Education (3)
A course designed to introduce individuals to the microcomputer as an instructional medium. The course will emphasize (1) the history, role, and use of microcomputers in education; (2) learning the elements of programming for the microcomputer; and (3) beginning program construction and debugging operations.

306(5006) Graduate Workshop (1-10)
Prerequisite: Consent of instructor.

308(6308) Graduate Institute (1-10)
Prerequisite: Consent of instructor.

317(5317) Topics in the Teaching of Writing (1-3)
(Same as English 317) Prerequisite: English 210 or equivalent. Special topics in the practice of and pedagogy of writing designed for in-service teachers. Topics may include writing at specific grade levels, writing/reading workshops, writing in urban settings, writing across the curriculum, action research, new technology, classroom and district-level assessment. May be repeated once for credit if topics differ. Counts toward Certificate in writing.

393(5993) Practicum in Individualized Instruction (3-6)
Prerequisites: Completion of the course(s) to which assigned for instruction and consent of instructor. Supervised instruction in individualized programs. Seminar accompanies instructional experience. May be repeated.

408(6408) Graduate Seminar (1-10)
Prerequisite: Consent of instructor. Intensive study of selected issues in education.

414(7414) Common Doctoral Seminar(s) (3)
Prerequisite: Admission to the doctoral program. Two Edu 414 seminars are required for all doctoral students, for a total of six hours of Edu 414 seminar credit. One, "Elements of Educational Leadership," is to be taken early in the program. The other, "Research: Implementing Change in Educational Systems," is to be taken following completion of the research courses identified in the student's approved program.

415(7415) Emphasis Area Seminar(s) (3)
Prerequisite: Admission to the doctoral program. All doctoral students are required to take at least two emphasis area seminars consistent with their programs. Students may take additional emphasis area seminars. Obtain a list of emphasis area seminars from the office of graduate studies in education.

475(6475) Microcomputer Applications in Music Education (3)
(Same as Music 475.) Prerequisites: Graduate standing in music. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

476(6476) Microcomputer-Assisted Instruction Curriculum Development in Music (3)
(Same as Music 476(5760). Prerequisites: Graduate standing in music. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major CAI program for use in an elementary, secondary, or postsecondary setting is required.
College of Education
School-wide Courses

477(6477) Advanced Microcomputer Application in
Music (3)
(Same as Music 477.) Prerequisite: Graduate standing in
music. The study of complex microcomputer applications
including music synthesis, MIDI, music-oriented graphics,
voice and pitch recognition, administrative applications,
and computer-assisted instruction.

480(7880) Research Internship I (3)
Prerequisite: Nine hours of research methods or statistics
and consent of instructor. Supervised experience in the
conduct of research studies or scholarly inquiry.

481(7881) Research Internship II (3)
Prerequisite: Educ 480(7880) and consent of instructor.
Supervised experience in the conduct of research studies or
scholarly inquiry.

482(7882) Research Internship III (3)
Prerequisite: Educ 481(7881) and consent of instructor.
Supervised experience in the conduct of research studies or
scholarly inquiry.

491(6491) Staff Development and Professional Growth
(1-10)
Designed in conjunction with an individual school district
or educational agency and related to problems of education
confronting that specific district or agency.

495(7495) Doctoral Research Tools (1-6)
Prerequisites: Ed Rem 431(6710). Structured individual or
small group instructional or supervised investigative
experience in and with a specific research skill and/or
procedure that will be needed in the production of a
doctoral dissertation. May not substitute for any existing
graduate courses that cover same research tool skills.

497(6998) Thesis Research (1-10)
Prerequisite: Consent of instructor.

499(7999) Dissertation Research (1-12)
Prerequisite: Admission to the doctoral program.
Credit awarded only upon successful defense of the
dissertation.
Division of Counseling and Family Therapy

Faculty

Therese S. Cristiani, Associate Professor, Chairperson
Ed.D., Indiana University

R. Rocco Cottone, Professor
Ph.D., Saint Louis University

Patricia A. Jakubowski, Professor Emerita
Ed.D., University of Illinois

Arthur E. Smith, Professor Emeritus
Ph.D., Saint Louis University

Susan Kashubeck-West, Associate Professor
Ph.D., Ohio State University

Mark Pope, Associate Professor
Ed.D., University of San Francisco

W. Glenn White, Associate Professor Emeritus
Ph.D., University of Missouri-Columbia

Lela K. Bunch, Assistant Professor
Ph.D., University of Missouri-Columbia

S. Kent Butler, Assistant Professor
Ph.D., University of Connecticut

Dawn M. Szymanski, Assistant Professor
Ph.D., Georgia State University

* members of graduate faculty
** members of doctoral faculty

General Information

The Division of Counseling and Family Therapy is housed on the fourth floor of Marillac Hall. Information about offerings and related matters may be obtained in the departmental office, 469 Marillac Hall. The Division of Counseling and Family Therapy offers work leading to the M.Ed., Ph.D., and Ed.D. and requisite course work for state certification in elementary and secondary school and counseling, and school psychological examiner. Non-certification degree work is available in community counseling and is designed to prepare students to take the state examination for licensed professional counselor.

Areas of emphasis in the M.Ed. counseling degree program are elementary school, secondary school, or community counseling.

The following Division of Counseling and Family Therapy programs have been accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP):

- Community Counseling (M.Ed. degree)
- Community Counseling with a Specialization in Career Counseling (M.Ed. degree)
- School Counseling (M.Ed. degree)

CACREP, a specialized accrediting body recognized by the Commission on Recognition of Postsecondary

College of Education
Division of Counseling and Family Therapy

Accreditation, grants accredited status to graduate-level programs in the professional counseling field.

Students wishing to receive Missouri certification in elementary school counseling, or secondary school counseling, must complete all required courses in addition to holding teaching certificates valid in Missouri or taking the equivalent coursework. (Consult your adviser if you have questions on these matters.) The community counseling area, for which there are no certification requirements, is appropriate only for the practice of counseling in non K-12 settings.

The master of education degree in counseling has an exit requirement of a comprehensive examination. Students may sit for the exam after completing 36 units in their degree program. There is a service charge for taking the exam. The exam will be given at least twice a year. All degree students should consult with their advisers about this requirement.

Graduate Studies

Admission

In addition to meeting the general admission requirements of the Graduate School, applicants to the master's of education with an emphasis in community or school counseling must complete the divisional application in addition to the application to Graduate School, have three completed references on file, must have an undergraduate GPA of 3.0, and must take Cns Ed 410 (6000), Personal and Professional Development in Counseling in their first semester. Admissions will be conducted twice a year. The deadlines for applications are June 1 for the fall semester and November 1 for the winter semester. Students are accepted on a provisional basis pending their completion of application materials, Cns Ed 410 (6000), and review by the Counseling Faculty Review Board.

Since it is the objective of the counseling faculty to identify students with low effectiveness potential as early as possible and to initiate the necessary procedures for dealing with such students, the faculty of the counseling program reserves the right to review students at any stage of their course work. Any grade less than a B in any core counseling course Cns Ed 410 (6000), Personal and Professional Development in Counseling; Cns Ed 411 (6010), Theories of Counseling; Cns Ed 482(6270), School Counseling Practicum or Cns 485 (6370), Community Counseling Practicum; Cns Ed 483(6280) School Counseling Field Experience I and Cns Ed 484(6285), School Counseling Field Experience II or Cns Ed 486 (6380),Community Counseling Field Experience (6 units), will automatically trigger a review process which may result in the termination of the student's degree program.

Students admitted to the master's degree program in counseling on restricted status must attain a 3.0 GPA for the first 12 hours of graduate course work at UM-St. Louis
with no grades less than a B. Restricted students must include the following courses in the first 12 hours of course work: Cns Ed 410 (6000), Personal and Professional Development in Counseling; Cns Ed 411 (6010), Theories of Counseling, and Cns Ed 482(6270), School Counseling Practicum , or Cns Ed 485 (6370), Community Counseling Practicum. A student earning any grade less than a B in any of these three courses, but still maintaining a 3.0 GPA, will be allowed to repeat the course one time and must earn a grade of B or better to be admitted.

Master of Education: Emphasis in Elementary School Counseling
The courses listed below meet the course work requirements for the M.Ed. degree, state certification, and licensing as a professional counselor:

Counselor Education (Cns Ed)
410(6000), Personal and Professional Development in Counseling
411(6010), Theories of Counseling
412(6600), Theories & Techniques of Counseling Children and Adolescents
413(6020), Ethical and Professional Issues in Individual and Relationship Counseling
414(6050), Individual Inventory
420(6040), Group Procedures in Counseling
431(6020), Foundations of School Guidance
442(6400), Career Information and Development
482(6270), School Counseling Practicum
483(6280), School Counseling Field Experience I
484(6285), School Counseling Field Experience II
495(6030), Foundations for Multicultural Counseling

Psychological Foundations and Human Development (Ed Psy)
410(6210), Lifespan: Individual & Family Development
432(6532), Psycho-Educational Differences in Childhood

Educational Research and Evaluation Methods (Ed Rem)
421(6709), Educational and Psychological Measurement
431(6710), Educational Research Methods and Design

Individuals seeking certification as a professional school counselor in the State of Missouri who are non-teacher certificated must take the following courses in addition to their counseling degree: Psych Ed 411 (6111), Sec Ed 416 (6416), SE 320, and Elem. Ed. 410 (6410) or Sec. Ed. 415 (6415).

Master of Education: Emphasis in Community Counseling
The community counseling emphasis allows flexibility for developing programs appropriate to particular nonschool settings. Students must have their adviser's approval before taking other than required courses.

Core Curriculum (CNS ED)
The courses listed below meet the course work requirements for the M. Ed. Degree and the license to practice as a professional counselor:
410(6000), Personal and Professional Development in Counseling
411(6010), Theories of Counseling
412(6600), Theories & Techniques of Counseling Children and Adolescents
413(6020), Ethical and Professional Issues in Individual and Relationship Counseling
414(6050), Individual Inventory
415(6300), Founder of Community Counseling
420(6040), Group Procedures in Counseling
442(6400), Career Information and Development
485(6370), Community Counseling Practicum
486(6380), Community Counseling Field Experience (6)
495(6030), Foundations for Multicultural Counseling
Psychological Foundations and Human Development (Ed Psych)

The following course is required:
413(6113) Personality Development and Adjustment

Educational Research and Evaluation Methods (Ed Rem)
The following course is required:
431(6710), Educational Research Methods and Design

Area of Specialization (9 hours)
Course work in the area of specialization is to be selected in consultation with the adviser and may include career counseling, mental health counseling, rehabilitation counseling, child and adolescent counseling, couples and family counseling, and others.

Career Outlook

Elementary and Secondary School Counselors
The demand for school counselors throughout the state is quite high. There is a shortage of school counseling personnel at all levels. Additionally, many teachers who do not intend to leave the classroom pursue this program to be better able to meet the needs of their students. Some graduates of the program have left the field of education and have obtained positions such as those cited under Community Counseling.

Community Counselors
Graduates have been employed in a wide variety of settings: as counselors in community colleges, universities, employment agencies, vocational rehabilitation agencies, probation and parole work, juvenile detention, alcoholism and drug abuse clinics, career planning and placement centers, community mental health agencies, family and children services, and various federally funded public service projects. Additionally, graduates are employed in career development, and business and industry positions, especially in training and personnel areas. Others have moved into roles calling for research and evaluation skills.

Note: It should be noted that in Missouri, persons who engage in "professional counseling" in many of these settings are required by law to be licensed as professional counselors.
Course Descriptions
Prerequisites may be waived by consent of the department. For information about certification and licensure, an adviser should be consulted. Course descriptions in this section are Counseling (Cns) courses.

Counseling (Cns)

110(1400) Making a Career Choice (1)
Introduces students to career development theories (Holland, Super, Bolles, etc.) and the career decision-making process. Students receive an overview of career development theory and learn how these theories pertain to the formulation of career plans. Self-assessment and decision-making techniques learned in this class can be revisited throughout the life span. The seminar format allows for small group discussion of career-related issues and personal application of career development principles.

310(3000) Introduction to the Counseling Profession (3)
Prerequisite: Junior or senior level standing. This survey course will provide undergraduates and noncounselors with a broad overview of the counseling profession. Topics include a history of the profession, foundations of counseling, ethical, and legal considerations and the role of the counselor in various settings.

318(3210) Counseling Gifted Students (3)
Prerequisites: Spc Ed 313(3313), Ed Psych 312(3312), or equivalent. This course emphasizes the social and emotional development of gifted and talented individuals. Subject areas will include current research, factors affecting the development of the gifted, and resources and strategies utilized in counseling these students and their parents.

329(3710) Counseling the Chemically Dependent (3)
This course is an introduction to the problems resulting from the abuse of alcohol and other chemicals, with an emphasis on the impact of chemical dependence on the individual, the family, the employer, and the community. The special problems resulting from chemical dependence as it affects various populations, e.g., women, individuals with disabilities, and the elderly, will be analyzed and linked to appropriate counseling strategies.

331(3220) Counseling Individuals with Special Needs (3)
Prerequisite: Spc Ed 313(3313), or equivalent. A course emphasizing counseling skills for individuals who plan to work with the handicapped. Emphasis is placed on using counseling strategies with school-age handicapped children.

332(3720) Youth and Chemical Dependence (3)
Prerequisite: Junior standing. This course provides information about adolescent and preadolescent chemical dependency and its relationship to numerous other developmental and societal factors that place the adolescent "at risk" for the development of substance abuse problems. Skills in the identification, intervention, and referral of chemically-dependent adolescents are emphasized, along with preventive measures and family and school issues.

404 Seminars (1-10)
Prerequisite: Graduate Standing

410(6000) Personal and Professional Development in Counseling (3)
Prerequisite: Provisional acceptance to the Counseling Program or consent of instructor. This course provides an in-depth view of the professional counseling field. Attention is focused on the development of the helping relationship, including a review of research on factors which influence helping processes and rapport building, a development of skills used in the counseling process, and increased awareness of how students' values, beliefs, and behaviors are related to counselor effectiveness.

411(6010) Theories of Counseling (3)
Prerequisite: Cns Ed 410(6000). This course will explore the philosophical foundations of counseling theory. The major constructs of contemporary counseling approaches will be discussed, and the practical applications of these theories will be analyzed.

412(6600) Theories and Techniques of Counseling Children and Adolescents (3)
Prerequisite: Cns Ed 410(6000), 411(6010) (with a grade of B or better in both courses) or consent of the instructor. Focus is on counseling theories and their applicability to the developmental special concerns of children and adolescents including child-at-risk issues such as: abuse, suicide, divorce, and death and dying. Individual, group, and family intervention techniques and consultation skills will be emphasized, as well as legal and ethical considerations for counselors. Strategies presented can be utilized in a variety of settings. Multicultural considerations are also addressed.

413(6020) Ethical and Professional Issues in Individual and Relationship Counseling (3)
Prerequisite: Cns Ed 410(6000). Ethical, legal, and professional issues related to counseling are addressed. Ethical dilemmas in the provision of counseling services to individuals, couples, families, and groups are defined. Specific ethical codes of professional organizations are examined.

414(6050) Individual Inventory (3)
Prerequisites: Ed Rem 421(6709). Uses of educational and psychological appraisal techniques in counseling. Develops counselors' abilities in assisting clients toward self-awareness through the use of test and nontest data. Ethical practices in the use of tests and the maintenance of personnel records are stressed.
415(6300) Foundation of Community Counseling (3)
Prerequisites: Cns Ed 410(6000) and Cns Ed 411(6010).
A study of counseling profession applicable to a variety of human service settings. Introduction to the basic philosophical, historical, and psychological foundations of community and agency counseling. Designed to acquaint the student with the foundations and roles of the counselor in various community and agency settings.

420(6040) Group Procedures in Counseling (3)
Prerequisites: Cns Ed 411(6010) and Cns Ed 493. This course examines the process dynamics of groups including group development, leadership, norms and therapeutic factors. Group counseling theories and approaches used for other group work including skills, personal growth, support, vocational, and developmental guidance groups are included. Knowledge and skills of how to facilitate therapeutic groups are included. Students will be required to be participant-observers or facilitators of a group outside of class time.

423(6500) Introduction to Systems Theory for Marriage and Family Counseling (3)
Prerequisite: Cns Ed 411(6010). This course is an introduction to general systems theory and application to marriage and family counseling. Students learn the theoretical basis for intervention and counseling strategies in the context of an ecology of human development. Developmental issues at individual, sibling, marital, family, and community levels and the ways in which various social systems interact with and mutually influence one another are presented.

424(6510) Marriage Counseling and Enrichment (3)
Prerequisite: Cns Ed 423(6500) or consent of instructor. This course focuses on the theory and technique of marital or couples counseling and enrichment. Models and methods for prevention and treatment of relationship dysfunction are explored. Relationship developmental issues are addressed. Students are challenged to develop the critical skills necessary to be effective marriage counselors and marital life educators.

425(6520) Family Counseling (3)
Prerequisites: Cns Ed 423(6500) and Cns Ed 482(6280) or 485(6370), or consent of instructor. This course offers an in-depth analysis of strategic, structural, experiential, communications, behavioral, and psychodynamic approaches to systems change and family counseling. The range of techniques and applied practices evolving from each orientation are explored as are normal and dysfunctional family processes. Various counseling modalities, such as individual, concurrent, collaborative, conjoint, group, intergenerational, and networking are also considered.

426(7000) Advanced Theories of Counseling and Family Therapy (3)
Prerequisites: Cns Ed 411(6010) and Cns Ed 423(6500), Cns Ed 482(6280) or 485(6370) or consent of instructor. Contemporary and emergent theories in counseling and family therapy are presented and analyzed. Research issues are addressed.

427(6700) Introduction to Addictive Behaviors and Addiction Counseling (3)
Prerequisites: Cns Ed 411(6010) consent of instructor. Exploration of the theoretical foundations of contemporary approaches to such addictive behaviors as alcohol and drug abuse, smoking, compulsive gambling, and sexual addiction. The nature, etiology, prevention, and treatment of addictions are discussed and analyzed from a variety of theoretical perspectives. The applications of these specific theoretical models to various treatment settings are examined. Multicultural considerations are also addressed.

428(6540) Preventive Interventions with Couples and Families (3)
Prerequisite: Cns Ed 423(6500), 424(6510), or 425(6520). Interventions for preventing the development of mental health problems in a couple or family context are surveyed. Premarital counseling, couple and marriage enrichment training, family life education, and relationship enhancement training will be reviewed. Outreach approaches will also be presented.

429(6782) Advanced Strategies in Addictions Counseling (3)
Prerequisite: Cns Ed 427(6700), or consent of instructor. Study of advanced, empirically supported counseling approaches and techniques for the treatment of addictive behaviors. An emphasis is placed on screening and assessment procedures and on matching interventions to individual client and community needs.

430(6784) Counseling the Dual Diagnosed Substance Abuser (3)
Prerequisites: Cns Ed 427(6700) and Cns Ed 411(6010). This course introduces the student to the special needs, concerns, and problems encountered when counseling clients who are both mentally ill and chemically dependent. Subject areas include an overview of counseling methodologies, diagnosis, and psycho-pharmacology.

431(6200) Foundations of School Guidance (3)
The purpose of this course is to give students a foundation for understanding the history, philosophy, and development of school guidance programs. The role functions of the school counselor within a developmental, comprehensive program are examined, along with communication skills necessary for consultation with students, parents, school support staff, and resource people in the community nonacademic needs.
432(6530) Assessment and Case Management in Couple and Family Counseling (3)
Prerequisites: Cns Ed 423(6500), 424(6510), or 425(6520). Techniques measures for assessing couple, marriage and family functioning are reviewed. The case management process is outlined, including stages of case development. Ethical issues related to case recording keeping are reviewed.

433(6550) Trends, Family Counseling (3)
Prerequisites: Cns Ed 423(6500), 425(6520). The evolution of family types and structures in American cultures will be reviewed. Cultural influence on diverse system structures will be surveyed. Problems that impede family functioning and development, such as socioeconomic disadvantage, discrimination, addiction, unemployment, family blending, and abuse will be addressed, with special emphasis on the effects on family development and intervention strategies. Research data on normative and non-normative family functioning will be presented.

442(6400) Career Information and Development (3)
Prerequisites: Graduate standing. Emphasis is on the nature of the changing labor market and the impact on personal, social, economic, career and educational aspects of individuals and society. Use of occupational and educational information systems and resources to assist with career decisions are examined. The needs of culturally diverse populations are discussed. Use of career and labor market information and programs such as computer technology to access up-to-date career and labor market information is explored. Techniques and methods of career counseling are discussed. Various theories of career development and career choice will be examined.

443(6410) Advanced Career Development (3)
Prerequisites: Cns Ed 442(6400) or consent of instructor. Emphasis is on current theories of career development, career choice, and techniques and methods of career counseling. Issues concerning education and training, work, leisure, the family, life roles, and culturally diverse populations are studied. The role of career theory in planning, development, and delivery of a career development program is explored.

444(6420) Career Assessment in Counseling and Rehabilitation (3)
Prerequisites: Cns Ed 414(6050) and 442(6400) or consent of instructor. This course provides an in-depth and specialized look at the educational and psychological assessment techniques used in career counseling, especially the assessment of career interests, work values, work environment, work skills, work samples, career development stages, career maturity, career decision making, and career beliefs. Issues of using computers in the delivery of career development services will be discussed.

451(6610) Counseling Parents of Exceptional Children (3)
The development of counseling skills to enable human service professionals to interact productively with families who have handicapped children.

455(7030) Counselor Education and Supervision. An introduction to clinical supervision in counseling. Theories, models, and research in supervision will be presented. Students will supervise master's level students in practicum and internship courses in counseling.

460(6800) Rehabilitation Counseling (3)
Prerequisite: Cns Ed 410(6000), 411(6010), 482(6270) or 485(6370). This course addresses: a) the history of vocational rehabilitation; b) specialty issues in rehabilitation counseling; c) medical aspects of disability; d) the rehabilitation process; e) theories of rehabilitation; f) the assessment process of individuals with disabilities; g) the job placement and work adjustment process of individuals with disabilities; h) ethical issues in rehabilitation counseling.

461(7802) Theory and Practice of Clinical Hypnosis in Counseling (3)
Prerequisite: Cns Ed 482(6270) or 485(6370) or Consent of instructor. Clinical hypnosis is conceptualized and approached as a system of skilled communication. Historical perspectives, major models (Traditional, Standardized, and Utilization [Ericksonian], myths, and misconceptions will be explored. Students will develop skills in direct and indirect trance induction procedures, and case conceptualization with individuals and multiple participants. Legal and ethical considerations will be presented.

462(7040) Counseling Women Toward Empowerment (3)
Prerequisite: Cns Ed 410(6000), 411(6010), 482(6270) or 485(6370). An introduction to Women's issues in counseling. Relational theory, healthy female development, and an overview of clinical issues most common to females will be presented.

470(7050) Advanced Assessment in Counseling (3)
Prerequisite: Cns Ed 414(6050) and doctoral standing or consent of the instructor. This course develops advanced skills in the assessment process which includes the administration, scoring, and interpretation of psychological tests and environmental inventories, clinical interviewing, observation, and the gathering of historical and collaborative information; and the integration of this information into patterns to predict human functioning.

472(7806) Practicum in Group Counseling (3)
Prerequisite: Cns Ed 471 (7804) and doctoral standing or consent of instructor. Students will lead or co-lead a supervised counseling group in the community.
475(7770) Doctoral Practicum (3)
Prerequisites: Doctoral standing. 100 hours of on-campus doctoral-level supervised counseling practice. Students will counsel clients and will be introduced to teaching and supervising beginning counseling trainees in a clinical context. As a prerequisite to the doctoral internship, students will be expected to demonstrate competence in skills required of counselor educators and clinical supervisors. Students will receive 1.5 hours of group and 1 hour of individual supervision by a graduate faculty member.

476(7780) Doctoral Internship I (3)
Prerequisites: Cns Ed 475(7770); Ed Rem 471(7804) and 481(7781). 300 clock hours of doctoral-level supervised practice in counseling. Students provide counseling services to clients at field sites, teach and supervise beginning counseling trainees, and conduct clinical research projects. Students are supervised by a graduate faculty member, with 2 hours per week of group supervision or 1 hour per week of individual supervision.

477(7785) Doctoral Internship II (3)
Prerequisites: Cns Ed 476(7780) or concurrent enrollment. Continuation of Cns Ed 476(7780), Doctoral Internship I, with 300 clock hours of doctoral level supervised practice in counseling required. Students provide counseling services to clients at field sites, teach and supervise beginning counseling trainees, and conduct clinical research projects. Students are supervised by a graduate faculty member, with 2 hours per week of group supervision or 1 hour per week of individual supervision.

480(7070) Advanced Clinical Issues in Counseling (3)
Prerequisite: Doctoral standing or consent of instructor. This course will address advanced clinical issues with seriously disturbed clients.

482(6270) School Counseling Practicum (3)
Prerequisite: Cns Ed 410(6000) and 411(6010) (both courses with a grade of B or better) or consent of the instructor. Supervised practice in counseling with children and adolescents and the opportunity for students to learn to facilitate personal change and problem solutions using a defined systematic framework, theoretical orientation, or research base.

483(6280) School Counseling Field Experience I (3)
Prerequisite: Cns Ed 482(6270) with a grade of B or better and consent of instructor. A 300-hour closely supervised field experience under the direction of a graduate faculty member. Designed to move the student to an appropriate level of competence and evidence of growth in the professional school counselor role. Students will receive 1.5 hours of group and 1 hour of individual supervision weekly by a graduate faculty member.

484(6285) School Counseling Field Experience II (3)
Prerequisites: Cns Ed 483(6280) with a grade of B or better and consent of instructor. A 300-hour closely supervised field experience under the direction of a graduate faculty member. The course will build on and extend the School Counseling Field Experience I. The student will acquire counseling competencies and ethical practice in keeping with the Missouri state guidelines for school counselors. Students will receive 1.5 hours of group and 1 hour of individual supervision weekly by a graduate faculty member.

485(6370) Community Counseling Practicum (1-6)
Prerequisite: Cns Ed 410(6000) and 411(6010) and consent of instructor. One hundred clock hours of supervised practice in counseling to provide the opportunity for students to pragmatically integrate and process materials, theories, techniques, and methodologies as they are applied in the counseling profession.

486(6380) Community Counseling Field Experience (1-6)
Prerequisite: Cns Ed 485(6370) and consent of instructor. A 100-hour field experience for each semester-credit-hour of enrollment. Students will be closely supervised under the direction of a graduate faculty member. Students must demonstrate counseling competencies and skillful ethical practice. Students will receive 1.5 hours of group supervision weekly by a graduate faculty member and 1 hour of individual supervision weekly by field experience site supervision during terms of enrollment.

495(6030) Foundations for Multicultural Counseling (3)
Prerequisite: Cns Ed 411(6010). This course will focus on: (1) reviewing knowledge and research in the area of multicultural counseling, (2) developing and/or enhancing skills useful in counseling with individuals from minority populations, and (3) developing levels of personal awareness about stereotypes, and learning how feelings and attitudes about these may impact counseling with individuals from minority populations.

496(7020) Seminar in Counseling Research (3)
Prerequisite: Ed Rem 431(6710), doctoral standing or consent of instructor. The purpose of this course is to review and analyze current counseling research literature. Ethical issues will be addressed.

497(6497) Problems (1-10)

498(7010) Advanced Multicultural Counseling (3)
Prerequisite: Cns Ed 495(6030) and doctoral standing or consent of instructor. This advanced course addresses theories and research in multicultural counseling.
Division of Educational Leadership and Policy Studies

Faculty

Carole A. Murphy, Associate Professor**, Chairperson
Ed.D., Texas A & M University
Judith A. Cochran, E. Desmond Lee Professor in Tutorial Education**
Ph.D., Arizona State University
Cecil Abrahams, Distinguished Professor*
Ph.D., University of Alberta, Canada
Lloyd I. Richardson Jr., Professor**
Ph.D., George Peabody College
Charles D. Schmitz, Professor**, Dean
Ph.D., University of Missouri-Columbia
Joy E. Whitener, Dean Emeritus, l'professor Emeritus*
Ed.D., Washington University
Charles J. Fazzaro, Associate Professor**
Ph.D., West Virginia University
John A. Henschke, Associate Professor**
Continuing Education Specialist, University Outreach and Extension-East Central Region
Ed.D., Boston University
Lowe S. (Sandy) MacLean, Vice Chancellor Emeritus*
Ed.D., Indiana University-Bloomington
Thomas R. Schnell, Associate Professor**
Ph.D., Southern Illinois University, Carbondale
Patricia Somers, Associate Professor**
Ph.D., University of New Orleans
Ken Owen, Affiliate Associate Professor*
Ed.D., Saint Louis University
Steven Adamowski, Assistant Professor
Ph.D., St Louis University
Patricia Boyer, Assistant Professor**
Ph.D., University of Missouri-Columbia
Mary Cooper, Assistant Professor of Adult Education*
Ph.D., University of Minnesota
E. Paulette Isaac, Assistant Professor*
Ed.D., University of Georgia
Kathleen Sullivan-Brown, Assistant Professor**
Ph.D., Washington University
Shawn Woodhouse, Assistant Professor**
Ph.D., University of Missouri-Columbia
Wendell L. Smith, Assistant Professor* Special Assistant to the Chancellor and Dean Emeritus
Ph.D., Ohio State University
Margaret R. Dolan, Affiliate Assistant Professor*
Ph.D., St Louis University
Tom Hensley, Affiliate Assistant Professor*, Director of Special Programs, Continuing Education and Outreach
Ed.D., University of Missouri-St. Louis
John Ingram Jr., Affiliate Assistant Professor
Ph.D., University of Wisconsin-Madison
Gladys E. Smith, Affiliate Assistant Professor*
Director of PreCollegiate Programs
Ph.D., St. Louis University

Lynn Beckwith Jr., Superintendent in Residence*
Ed.D., St. Louis University

* members of Graduate Faculty
** members of Doctoral Faculty

General Information

The Division of Educational Leadership and Policy Studies faculty is housed on the second floor of Marillac Hall. Questions about the division and its offerings may be directed to the division office, 269 Marillac Hall (314)516-5944.

The division offers master's degree work and advanced certification studies in elementary and secondary school administration, special education administration, and the superintendence. Higher education, adult education, and community education are additional emphases offered.

The division offers courses in K-12 school administration, higher education, and adult and community education. The M.Ed. degree is offered in K-12 school administration. Both the Ed.D. and Ph.D. are offered with emphases in K-12 school administration, higher education, and adult education.

Graduate Studies

The program options in the division include:
- Elementary and secondary school administration.
- Certification for school district administration.
- Higher education administration
- Adult and community education.

The options in educational administration are more than simply lists of courses. Each is an organized curricular offering.

The school administration and certification sequences are organized into a continuous two-phase, NCATE- and DESE- approved program. In the first phase, students earn the M.Ed. The second phase leads to the completion of a two-year course of study and is designated the advanced certification studies program. Both phases are correlated with current Missouri requirements for certification as a principal or director of elementary or secondary education or school superintendent in Missouri schools.

The programs in higher education administration are intended to be incorporated in a doctoral program of studies, either the Ph.D. or the Ed.D. Students can expect to be involved in cohort groups, non-traditional scheduling of most courses, and to be taking selected courses that are Web-based or through interactive television. Students are responsible for developing their individual programs. They are encouraged to take full advantage of the program-
planning assistance provided by advisers early in the program(s).

Master of Education and Advanced Certification Studies (ACS): Educational Administration
The recommended curriculum for the M.Ed. in Educational Administration is 33 semester hours. The curriculum for Advanced Certification studies is 60 semester hours.

Degree Requirements

1.00 Contexts Core (15 semester hours)

**Ed Adm 421(6201) Knowledge Contexts of Education Administration and Policy**
**Ed Adm 422(6202) Social Contexts of Education**
**Ed Adm 423(6203) Political Contexts of Education**
**Ed Adm 424(6204) Economic Contexts of Education**
**Ed Adm 425(6205) Legal Contexts of Education**

1.20 Research/Change Core (6-9 semester hours)

*Ed Rem 420(6707) Classroom Measurement and Evaluation**
**Ed Adm 431(6301) Education Administration Policy Research**
**Ed Adm 453(6503) Organizational Change in Education**

1.30 School Specialization Core (12 semester hours)

1.31 Elementary School Administration

**Ed Adm 432(6302) Elementary School Administration**
**Ed Adm 441(6401) School Staff Development and Supervision**
**Ele Ed 411(6411) Curricular Issues in Elementary Schools**
**Ele Ed 422(6422) Curriculum Construction in Elementary Schools**

***Ed Adm 490(6900) Internship**

1.32 Secondary School Administration

**Ed Adm 434(6304) Secondary School Administration**
**Ed Adm 441(6401) School Staff Development and Supervision**
**Sec Ed 415(6415) Secondary School Curriculum**
**Sec Ed 416(6416) Curriculum Construction in Secondary Schools**

***Ed Adm 490(6900) Internship**

* Required if student had no equivalent course at the undergraduate level.
** Exit course—must be taken during last semester of M.Ed. program.
*** Must be taken within the last 10 semester hours before completion of M.Ed. program.

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College of Education
Division of Educational Leadership and Policy Studies

Master of Education: Educational Administration with Emphasis in Community Education
This is a 32-credit hour program for students interested in community education.

Degree Requirements

2.10 **Education/Change Core (6-9 semester hours)**

Ed Fnd 421(6421) Philosophy of Education
Ed Fnd 435(6435) History of Western Education
Ed Fnd 320 History of American Education
Ed Fnd 422 Social Contexts of Education
Ed Fnd 423 Political Contexts of Education
Total Required Sem. Hrs. Section 2.10 = 12

2.20 **Research Core**

Ed Adm 431(6301) Educational Administration Policy Research
Ed Rem 330(5730) Educational Statistics
Total Required Sem. Hrs. Section 2.20 = 6

2.30 **Community Education**

Ed Rem 461(6601) Administration of Community and Adult Education
Ed Adm 462(6602) Programming in Community and Adult Education
Ed Adm 490(6900) Internship: Community Education
Total Required Sem. Hrs. Section 2.30 = 9

2.40 **School Specialization**

2.41 **Elementary School Administration**

Ed Adm 432(6302) Elementary School Administration
Ele Ed 411(6411) Curricular Issues in the Elementary School
OR
Ele Ed 416(6416) Curriculum Construction for Secondary Schools
Total Required Sem. Hrs. Section 2.41 = 6

2.42 **Secondary School Administration**

Ed Adm 434(6304) Secondary School Administration
Sec Ed 415(6415) The Secondary School Curriculum
OR
Sec Ed 416(6416) Curriculum Construction for Secondary Schools
Total Required Sem. Hrs. Section 2.42 = 6

TOTAL Master of Education-Community Edu = 33

*Exit Requirement—Taken within the last 9 semester hours of the M.Ed. program.

**Students take either section 2.41 or section 2.42, not both sections.
Course Descriptions

Educational Administration (Ed Adm)

Prerequisites may be waived by consent of the department.

411(6101) Foundations of School Administration I (1)
Prerequisites: Admission to the masters, doctoral, and/or certification programs in education administration. This course is (1) an introduction to the sources of knowledge and information about education administration, (2) a review of written and oral communications standards in education administration, and (3) the uses of technology in education administration. Each student will be assigned to a Collegium (5-10 students under the direction of a faculty adviser) and begin the construction of a portfolio of academic work. Students will remain in their assigned collegium until they complete their programs of study.

412(6102) Foundations of School Administration II (1)
Prerequisites: Ed Adm 411(6101). This course must be taken during the middle third of the thirty-three (33) semester hour M.Ed. program or any administrator certification program. The course is designed to engage students in activities that relate the academic study of education administration to practice in the schools and to continue the construction of their individual portfolios.

413(6103) Foundations of School Administration III (1)
Prerequisites: Ed Adm 412(6102). This course must be taken during the last semester of the thirty-three (33) semester hour M.Ed. program or any administrator certification program. The course engages the student in an assessment simulation that parallels that of the Interstate School Leaders Licensure Consortium Council (ISLLC) of the Council of Chief State School Officers (CCSSO). Students will complete their individual portfolios by the end of this course.

421(6201) Knowledge Contexts of Education Administration and Policy (3)
Prerequisites: Enrolled in Ed Adm program or consent of instructor. This course is a survey of the various views of knowledge that have influenced the nature of the organizational structures and policies of American educational institutions. The course is framed both by the purposes of American education and the scientific management movement of the first quarter of the 20th Century.

422(6202) Social Contexts of Education (3)
Prerequisites: Ed Adm 421(6201) or consent of instructor. This course is a critical examination of different perspectives on the social structures within which education policies are constituted and their concomitant practices implemented.

423(6203) Political Contexts of Education (3)
Prerequisites: Ed Adm 421(6201) or consent of instructor. This course is a critical examination of those aspects of local, state, and federal politics which significantly influence the political contexts within which education policies are constituted and their concomitant practices implemented.

424(6204) Economic Contexts of Education (3)
Prerequisites: Ed Adm 421(6201) or consent of instructor. This course is a critical examination of those aspects of local, state, and national economic structures which influence the nature of education policies and their concomitant practices.

425(6205) Legal Contexts of Education (3)
Prerequisites: Ed Adm 421(6201) or consent of instructor. This course is a critical examination of both (1) local, state, and federal laws and (2) Western notions of justice within which education policies are constituted and their concomitant practices implemented.

431(6301) Education Administration Policy Research (3)
Prerequisites: consent of instructor. A study of issues and trends in basic, applied, and action research in educational policy making.

432(6302) Elementary School Administration (3)
Prerequisite: Completion of at least (15) credit hours of the M.Ed. in Education Administration or consent of instructor. This course is a comprehensive, systematic study of the elementary school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of elementary schools.

433(6303) Middle School Administration (3)
Prerequisites: Completion of at least (15) credit hours of the M.Ed. in Education Administration or consent of instructor. This course is a comprehensive, systematic study of the middle school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of middle schools.

434(6304) Secondary School Administration (3)
Prerequisites: Completion of at least (15) credit hours of the M.Ed. in Education Administration or consent of instructor. This course is a comprehensive, systematic study of the secondary school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of secondary schools.
435(6305) School District Administration (3)  
Prerequisite: Enrolled in Advanced Certification Program and/or consent of instructor. Course focuses on current research about school district administration; also deals with major central office issues including: board/superintendent relations, central office organization, the function and authority of assistant superintendents and program directors, and the administrative team approach to school district administration.

441(6401) School Staff Development and Supervision (3)  
Prerequisite: Ed Adm 421(6201) and/or consent of instructor. This course provides an examination of the conceptual bases and practical applications of staff development and supervision in educational settings. It explores relevant conceptual models presented as heuristic devices to consider a variety of administrative techniques to assess needs, plan, deliver, and evaluate staff development and supervision programs in schooling.

442(6402) School Personnel Administration (3)  
Prerequisite: Advanced graduate standing and/or consent of instructor. This course is a comprehensive, systematic study of problems in planning, recruitment, selection, induction, and retention relative to school personnel.

443(6403) Problems in School Public Relations (3)  
Prerequisites: Advanced graduate standing and/or consent of instructor. This course is an examination of a range of both traditional and critical perspectives relevant to home-school-community relations.

444(6404) Collective Negotiations in Educational Organizations (3)  
Prerequisites: Advanced graduate standing and/or consent of instructor. This course focuses on the concepts, issues, and processes involved with collective negotiations (bargaining) in American educational organizations. The major issues addressed in the course include recognition procedures, bargaining unit determination, the scope of negotiations, the proposal and counterproposal, compromise, impasse procedures, and master contract management.

445(6405) Extracurricular Activities (3)  
Prerequisites: Graduate standing and/or consent of instructor. Activities related to the extracurricular program of secondary schools will be studied in depth. Analyses of appropriate activities will include the nature and purposes of these activities.

446(6406) Leadership in Educational Administration (3)  
Prerequisites: Advanced graduate standing and/or consent of instructor. This course is designed to acquaint the administrator with the factors of groups and interpersonal relationships directly affecting job performance. The consequences of various types of group relationships upon the institution will be studied in detail. The administrator will study various rationales for and methods of improving interpersonal relationships within the institution.

451(6501) Principles of Public School Finance in Missouri (3)  
Advanced graduate standing and/or consent of instructor. Course is designed to analyze and study critical areas of public school finance at the local and state levels, highlighting the role of such factors as legislative procedures, principles of local and state support, budgeting and accounting procedures, assessment of property, etc.

452(6502) School Buildings and Sites (3)  
Prerequisites: Advanced graduate standing and/or consent of instructor. This course deals with methods and procedures for (1) projecting the future building and facility needs of a public school district, (2) supervising actual planning and construction of educational facilities, (3) optimizing the use of current facilities, and (4) maintenance of buildings, grounds, and equipment.

453(6503) Organizational Change in Education (3)  
Prerequisite: Advanced graduate standing and/or consent of instructor. This course deals with (1) developing strategies for assessing educational needs, (2) methods of assessing the school's organizational health, (3) the designing of educational change strategies involving theory-based models, (4) using systems-analysis techniques to implement educational change, and (5) methods of involving students and staff in incorporating meaningful organizational change strategies in educational institutions.

461(6601) Administration of Adult and Community Education (3)  
Prerequisites: Graduate standing and/or consent of instructor. A course designed to familiarize the student with the structure, purpose, and processes of community education with particular emphasis being placed on the administrative theories and functions of adult education.

462(6602) Programming in Community and Adult Education (3)  
Prerequisite: Ed Adm 461(6601) and/or consent of instructor. Study and analysis of basic situations in which community and adult educational programming take place. Within this framework, application will be made of a fundamental series of steps essential to sound educational programming.
463(6603) Financing of Community Education (3)
Prerequisites: Graduate standing and/or consent of instructor. The student will develop the necessary skills needed to construct an operational budget for the administration of community education programs. Emphasis will be placed on developing a support base from federal, state, and local funding resources. The student will be exposed to proposal writing and funding procedures.

481(7800) Education Administration Doctoral Seminar (1-6)
Prerequisites: Admission to doctoral program and consent of instructor. Intensive directed study of selected issues related to the administration of educational institutions.

482(6800) Education Policy Studies Seminar (1-6)
Prerequisites: Admission to doctoral program and consent of instructor. Intensive directed study of selected education policy issues.

490(6900) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems (1-10)

Higher Education (HIR ED)

401(5401) Current Issues in Higher Education (3)
Prerequisites: Graduate admission. Familiarizes student with nature and characteristics of American higher education—structure of higher education, roles played by various constituencies, and current issues.

402(5402) Student Affairs Administration (3)
Prerequisites: Graduate admission. Survey course in student personnel administration with emphasis on understanding college student and on learning ways to meet his/her academic and nonacademic needs.

404(6404) The Seminar (1-10)
Prerequisites: Graduate standing.

405(6405) Financial Issues in Higher Education (3)
Prerequisites: Graduate standing. Provides an overview of the state/federal funding mechanisms for higher education in the U.S. Addresses practices in budgeting at various types of postsecondary institutions.

406(6406) Governance of Higher Education (3)
Prerequisites: Graduate admission. Concentrates on study of unique system of governance in higher education, including faculty, institutional, system, and state governing mechanisms.

420(6420) Legal Aspects of Higher Education (3)
Prerequisites: Graduate admission. Examines legal rights and responsibilities of faculty, students, staff, and administrators. Includes fair employment, due process, affirmative action, and liability.

421(6421) Legal Aspects of Postsecondary Teaching (3)
Prerequisites: Graduate admission. Examines legal issues of interest to faculty. Areas include faculty (contracts, grievances/appeals/affirmative action, free speech, tenure) and student (disability, sexual harassment, academic integrity, free speech, classroom incivility, student behavioral standards, grades) issues.

422(6422) Policy Analysis of Higher Education (3)
Prerequisite: Graduate admission. Introduces students to the analysis of higher education public policy. Includes state and local policy analysis and examination of legislative history of major federal higher education laws.

430(6430) The Community College (3)
Prerequisites: Graduate admission. Develops an understanding of the two-year college—its past, present, and future. Examines history, operations, funding, internal constituents, curricular mission, societal role, and current issues.

440(6440) Issues in Institutional Research I (3)
Prerequisites: Graduate standing. Provides a history and overview of institutional research in postsecondary education. Other areas of interest include student issues, student outcomes, higher education funding, productivity funding, and legal issues.

441(6441) Issues in Institutional Research II (3)
This course provides the study of key issues in institutional research, including faculty workload and salary, program assessment, fact books, peer institutions, national databases, and strategic planning.

473 (6473) Curriculum in Higher Education (3)
Prerequisites: Graduate standing and/or consent of instructor. The development, implementation, and assessment of curriculum in higher education as well as historical and philosophical perspectives; major figures and emerging trends are included.

474(6474) The College Student (3)
Prerequisites: Graduate standing and/or consent of instructor. A comprehensive overview of the theories and research related to college and university student development. Particular attention is given to student demographics, patterns of growth and development, and attitudinal changes.
476(6476) Organization and Administration of Higher Education (3)
Prerequisites: Graduate standing and/or consent of instructor. This course includes the study of the missions, governance, and organizational structures of American higher education institutions. Within this context, particular attention is given to administrative roles, responsibilities, and issues of leadership.

477(6477) History and Philosophy of American Higher Education (3)
Prerequisites: Graduate standing and/or consent of instructor. This course is a systematic study of the historical and philosophical contexts that have conditioned the evolution of American higher education. Particular attention is given to significant events, trends, and movements within American higher education.

481(7800) Higher Education Doctoral Seminar (1-6)
Prerequisites: Doctoral standing and/or consent of instructor. Intensive directed study of selected issues related to the administration of higher education institutions.

490(6900) Internship (1-10)
Prerequisites: Graduate standing and/or consent of the instructor. Closely supervised experience in a field under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems (1-10)
Prerequisites: Graduate standing and/or consent of the instructor.

Adult Education (Adu Ed)

311(4311) Teaching Basic Reading Skills to Adults (3)
A study of the reading process and of the characteristics of adult learners with a focus on instructional techniques and materials useful in upgrading the performance of adults with deficient reading skills.

404(6404) Seminar in Adult Education Research (1-10)
Prerequisites: Adu Ed 410(6410) or consent of instructor. A review of current research on various topics in the field of adult education. An in-depth study of these research topics will be conducted. Application to the field of adult education will be considered. Special focus will be placed on assessing and improving competency in educational, corporate and community settings.

410(6410) The Adult Learner (3)
This course is designed for those who help adults learn in a variety of settings. A study will be made of the characteristics of Adult Learners and various theories of how they learn, as well as the implications of these characteristics and theories for adult education research, programming, curriculum, planning, and instructional practice.

411(6411) History of Adult Education (3)
Prerequisites: Adu Ed 410(6410). A study of the historical foundation of adult education in America will include the major theorists and their contributions and the continuing education of the adult in a progressive social context.

412(6412) Philosophical Foundations of Adult Education (3)
Prerequisites: Adu Ed 410(6410) or consent of instructor. A comprehensive, systematic philosophical foundation for adult education. Exploration of philosophical underpinnings of various approaches to education of adults--role of learner, teacher, and objectives within each philosophy.

413(6413) Improvement of Instruction in Adult Education (3)
Prerequisites: Adu Ed 410(6410) or consent of instructor. A study of selected methods and instructional techniques appropriate for the teaching of adults. An examination of current research will be made as it relates to the problems of instructing adults.

414(6414) Curriculum Theory and Development in Adult Education (3)
Prerequisites: Adu Ed 410(6410) or consent of instructor. A study of curriculum theory and its application to adult education. Particular emphasis will be placed on the development of model curricula for various programs in adult education.

416(6416) Survey of Adult Distance Education (3)
Prerequisites: Adu Ed 410(6410). Survey of distance education covers concept, theories, history, present practice, delivery systems, major issues and directions of distance learning. Emphasis on research and practice in U.S.; however, course will explore topics and issues in distance education from international perspective, identifying similarities and differences among countries.

417(6417) Multicultural Issues in Adult Education (3)
Prerequisites: Adu Ed 410(6410). Discussion of cultural diversity from an adult education perspective. Topics include cultural self-awareness, challenges/issues in intercultural educational settings, theoretical perspectives of multicultural education, and practitioner concerns and strategies for implementing multiculturalism in adult education settings.
418(6418) Assessment in the Adult Classroom (3)
Prerequisites: AduEd 6410 & EdRem 6707 or consent of instructor. This course addresses assessing how effectively adult educators are facilitating adult learning. Emphasis will be on knowledge and skills, learner characteristics, and learner reactions to instruction effectiveness in the adult classroom. Special attention will focus this assessment in the adult classroom within educational, corporate, community, and non-formal settings.

419(6230) Adult Learning and Development (3)
Prerequisites: Ed Psy 411 or Ed Psy 411(6111), or Adu Ed 410(6410). (Same as Ed Psy 419.) Study of how life stage theories and theories of learning pertain to adult learner. Research bases of these theories explored in relationship to instructional practice with adult learners.

420(6420) Survey of Human Resource Development and Adult (3)
Prerequisites: Graduate standing and permission of instructor. Overview of fields of human resource development and adult education. Examines societal contexts within which training of adults and organization development occur. Explores systems theory that frames a discussion of adult education, training, and organization development. Represents unique characteristics of each field as well as ways in which two fields come together, along with general concepts: definitions, philosophies, goals, sponsoring agencies, professional roles, processes, participants, and resources.

425(6425) Principles of Business Education (3)
Prerequisites: Business education certification and consent of instructor. Designed for the business education teacher, this course examines in depth the principles, practices, and problems of business education programs. It emphasizes research into historical and philosophical implications, the influence of contemporary attitudes on business education, evaluation of current programs, and development of innovative approaches. It may be applied toward Missouri Vocational Business Education certification.

426(6426) Coordination of Cooperative Vocational Programs (3)
This course deals with student selection procedures. Coordinating vocational instruction and planned employment experiences; research techniques for collecting and analyzing data for process and product evaluation; procedures for implementing new ideas and innovations in cooperative vocational education programs. The course is designed for vocational teachers and for teachers who wish to qualify as coordinators of cooperative vocational programs. This course may be applied toward Missouri Vocational Certification.

427(6427) Improvement of Instruction in Teaching Business Subjects (3)
Prerequisites: Business education certification or consent of instructor. Designed for business education teachers, this course examines current trends in planning, organizing, developing, and evaluating instructional materials relevant to business education classes. Emphasis is placed on research techniques and strategies for selecting and utilizing appropriate curriculum materials, resources, and media to match learning needs. This course may be applied toward Missouri Vocational Certification.

432(6432) Teaching in the Community College (3)
This course is designed for students considering a teaching career in the community college. The main emphasis of the course will be to expose students to the unique features of the community college with respect to the special goals of the institution, variety of degree and nondegree programs, and diversity of community college students. A second objective will be to offer a brief review of teaching techniques that will be useful in the community college classroom.

435(6435) Problems in Teaching College Biology (3)
(Same as Biology 485(5985). Prerequisites: Teaching experience, 30 semester hours in biology, and consent of the instructor. Basic philosophies underlying undergraduate biology Education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

490(6990) Internship (1-10)
Prerequisites: Adu Ed 410(6410) or consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems in Adult Education (1-10)
Prerequisites: ADU ED 410(6410) or consent of instructor. Independent study on topics in adult education.
Division of Educational Psychology, Research and Evaluation

Faculty

Matthew W. Keefer, Associate Professor and Chair**
Ph.D., University of Toronto

Marvin W. Berkowitz, Sanford N. McDonnell Professor of Character Education**
Ph.D., Wayne State University

Thomas E. Jordan, Curator's Professor* of Child Development, Professor Emeritus
Ed.D., Indiana University

William L. Franzen, Professor *, Dean Emeritus
Ph.D., University of Wisconsin

Margaret W. Cohen, Associate Professor**
Interim Associate Vice Chancellor of Academic Affairs, Director, Center Teaching Excellence
Ph.D., Washington University

Steven D. Spaner, Associate Professor**
Ph.D., Southern Illinois University-Carbondale

Elisha A. Chambers, Assistant Professor*
Ph.D., Southern Illinois University, Carbondale

Cody S. Ding, Assistant Professor*
Ph.D., University of Minnesota

Donald A. Gouwens, Assistant Professor *
Psy.D., Central Michigan University

Clark J. Hickman, Assistant Professor and Associate Dean of Continuing Education and Outreach*
Ed.D., University of Missouri-St. Louis

Stephen A. Sherblom, Assistant Professor*
Ed.D., Harvard University

Virginia L. Navarro, Assistant Professor**
Ph.D., Washington University

* members of Graduate Faculty
** members of Doctoral Faculty

General Information

Faculty in the Division of Educational Psychology, Research, and Evaluation are housed on the fourth floor of Marillac Hall. Information about course offerings may be obtained in the division office, 402 Marillac Hall.

At the undergraduate level, the division coordinates educational psychology and measurement courses required in the various B.S. in education degree programs.

At the graduate level, the division offers courses in educational psychology and in educational research and evaluation methods required in the various M.Ed. degree programs and in the doctoral programs. Students choosing to pursue a Ph.D. in education may elect an emphasis in educational psychology. The Missouri certificate in school psychology is coordinated through this division.
Courses in this section are grouped as follows:
Educational Psychology (Ed Psy) and Educational Research and Evaluation Methods (Ed Rem)

Educational Psychology (Ed Psy)

212(2212) Introduction to Learners and Learning (3)
Prerequisite: Psych 3(1002). (Same as Tch Ed 212(2212))
Foundational study of development of infants, children and adolescents focusing on role of appropriate educational environments in fostering positive physical, cognitive, social, and moral outcomes. Reading relevant research will be combined with experiences in the field and technology-based assignments to investigate influences that shape development processes.

312(3312) The Psychology of Teaching and Learning (3)
Prerequisites: Tch Ed 210(2210), Tch Ed 211(2211), Tch Ed 212(2212) or equivalents and admission to Teacher Education program. (Same as Tch Ed 312(3312)). Application of the principles of psychology to an understanding of the dynamics of teaching behavior and learning behavior. Involves both theoretical and practical approaches to analysis of the learning environment of the school. Required of all who are preparing to teach. Includes a field experience.

325(3525) Education and the Psychology of Human Sexuality (3)
(Same as Nursing 325(4725)). The course is designed to provide educators and other human service personnel with knowledge and understanding of various personal and social dimensions of human sexuality.

404(6404) Seminar (1-10)

409(6109) Learning & Development in Secondary School Settings (4)
Prerequisites: Graduate standing and admission to the secondary teacher education program. Investigation of teaching and learning theories and research on the developmental needs of pre-adolescent and adolescent students. Issues of cognition, moral and social development, motivation, and assessment will be analyzed and debated. Emphasis will be on theoretical and practical approaches to constructing and analyzing a learning system. Includes field experiences.

410(6210) Life-Span: Individual and Family Development (3)
Prerequisites: Graduate standing. Critical analysis of theories of human development including readings from empirical research and cross-cultural comparisons focusing on strategies to enhance developmental outcomes through relationship and environmental opportunity.

411(6111) Psychology of Education (3)
Current psychological theories and research that guide inquiry and decision making in education. Topics surveyed include behavior, development, learning, instruction.

412(6310) Psychology of Learning Processes (3)
Prerequisite: Ed Psy 411(6111). Advanced study of learning and instructional theories. The historical and theoretical bases of instructional practice are examined.

413(6113) Personality Development and Adjustment (3)
A course in personality development, personality structure, and the dynamics of adjustment. Course materials are oriented to the applied problems of counselors, teachers, administrators, and others in the helping professions.

416(6215) Psychology of Early Childhood Development (3)
Prerequisite: Ed Psy 411(6111) or consent of instructor. A survey of the theories, concepts, and research which inform the field of early childhood development to help caregivers and teachers understand the cognitive, social, and emotional changes that take place from birth through the primary years of schooling.

417(6220) Psychology of the Elementary School Child (3)
Prerequisite: Ed Psy 411(6111) or consent of instructor. Current research on the psychological changes which occur during the school age years of childhood. Includes attention to how development proceeds and to the processes that may alter its progress.

418(6225) The Psychology of Adolescence (3)
Prerequisite: Ed Psy 411(6111) or consent of instructor. Current research on the psychological changes which occur during adolescence. Attention is paid to the family, school, peer groups, and contemporary settings that practitioners must understand to help young people meet the psychosocial challenges of adolescence.

419(6230) Adult Learning and Development (3)
Prerequisites: Ed Psy 410(6210) or Ed Psy 411(6111), or Adu Ed 410(6410). (Same as Adu Ed 419(6230)). Study of how life stage theories and theories of learning pertain to adult learners. Research bases of these theories will be explored in relationship to instructional practice with adult learners.
420(6534) Behavioral Analysis of Human Learning (3)
Prerequisite: Graduate standing. A course in the principles of human learning and the technology of behavior modification, from the perspective of the teaching and counseling professions. Emphasis is placed on its application to school learning and behavior problems and to social behavioral patterns in a variety of appropriate counseling settings.

421(6536) Biological Factors Influencing Human Behavior (3)
Prerequisite: Ed Psy 411(6111) or Ed Psy 412(6310) or consent of instructor. Examination of biological factors affecting human behavior. Includes an overview of neuroscience, developmental psychophysiology, and basic psychopharmacology. Implications for psychological and educational interventions are considered.

430(6530) Foundations of School Psychology (3)
Prerequisites: Graduate standing and consent of the instructor. Focus on educational foundations of school psychology including the organization and operation of schools. The historical and emerging roles, responsibilities, and functions of a school psychologist are analyzed.

431(6550) Professional Issues in School Psychology (3)
Prerequisites: Ed Psy 430(6530). Advanced examination of professional issues facing school psychologists including legal and ethical considerations, standards of practice, and alternative models of service delivery.

432(6532) Psycho-Educational Differences in Childhood (3)
Prerequisite: Ed Psy 410(6210) or Ed Psy 417(6220) or Ed Psy 418(6225) or consent of instructor. Examination of educational and mental health challenges first seen in childhood, with an emphasis on understanding both educational and mental health classification systems.

433(6540) Psycho-Educational Interventions in Childhood (3)
Prerequisites: Ed Psy 430(6530) and Ed Psy 432(6532) or Cns Ed 410(6000) or consent of instructor. Examination and evaluation of educational and mental health interventions delivered in schools and related settings, with emphasis on primary prevention and systems perspectives.

434(6545) Consultation in Schools and Related Settings (3)
Prerequisite: Ed Psy 430(6530) or Cns Ed 410(6000) or consent of instructor. An examination of theoretical principles, research, and legal and ethical issues as applied to consultation practices in schools and related settings.

440(6440) Moral Development and Education (3)
Prerequisites: Ed Psy 410(6210) or Ed Psy 417(6220) or Ed PSY 418(6225) or consent of the instructor. An introduction and overview of moral psychology and its implications for creating learning environments.

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441(6445) Character Education and Development (3)
Prerequisites: Ed Psy 411(6111) and Ed Psy 417(6220) or Ed Psy 418(6225). Critical survey of theories of character development and models for character education in childhood and adolescence. Includes empirical and conceptual study of the nature of moral character, how it develops, and how it can be fostered in schools.

442(7642) Sociocultural Perspectives in Education (3)
Prerequisites: Doctoral standing or consent of instructor. Investigation of sociocultural theory with a focus on educational applications. Topics include the social formation of mind, language as cultural tool, methodological issues in social science research, and dialogic inquiry as pedagogy.

443(7644) Motivation Theory in Education (3)
Prerequisites: Ed Psy 411(6111) and doctoral standing or consent of instructor. Focuses on the social and cognitive aspects of contemporary theories of motivation and examines supporting research. Participants will apply theory to settings of teaching and learning, training, and counseling relevant to their interests.

445(7640) Changing Perspectives in Educational Psychology (3)
Prerequisites: Ed Psy 411(6111) and doctoral standing or consent of instructor. The advanced exploration of foundational issues in educational psychology. Topics include theoretical perspectives of modes analysis used in the investigation of psychological theories and concepts in education.

446(6450) Advanced Methods in Character Education (3)
Prerequisite: Ed Psy 441(6445). Advanced exploration of methods for promoting character development in schools: class meetings, democratic processes, cross-age learning and character curriculum development. Methods will be critically examined for their empirical and theoretical justifications.
447(7647) Teaching for Learning in the Univ. (3)
Prerequisites: Graduate standing and consent of the instructor. An examination of current research in learning, motivation, and assessment as it pertains to teaching and learning in post-secondary settings. Designed to guide graduate students to promote active and meaningful learning in college classrooms to develop college students' critical thinking skills. Graduate students across the disciplines may enroll.

448 Technology-Supported Inquiry Learning (3)
Prerequisites: Ed Tec 340(5340) & Ed Psy 412(6310), or consent of instructor. Educational technology such as networked computers and software can play a supportive role in inquiry-based learning. Students will explore the theoretical background, design issues, and pragmatic realities of technology-supported inquiry learning environments. Such learning environments are best understood as systems involving social, cultural, material and psychological aspects. Consideration will be given to the important properties of settings, activities and technologies, as well as to the role of instructors. (Same as Ed Tec 448)

489(6590) School Psychology Practicum (3-6)
Prerequisites: Grade B- or better in Ed Rem 423(6718), Ed Psy 431, Ed Psy 432(6532), and consent of instructor. Supervised experience in psycho-educational assessment, intervention, consultation, and instructional strategies in schools and related settings. Settings and responsibilities to be determined in consultation with site supervisor and program faculty. My be repeated.

490(6990) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems (1-10)

Educational Research and Evaluation Methods (Ed Rem)

320(3720) Classroom Testing and Measurement (3)
Basic measurement principles for the classroom teacher: test planning; construction and use of selection, supply, and performance type test items; item analysis for test improvement; methods of summarizing test scores; derived scores for interpretation of performance; development and use of norms in evaluation.

321(3721) Interpretation of Educational Tests and Measurements (3)
Prerequisite: Meet the university standard for proficiency in basic mathematical skills. A study of the principles of test theory with emphasis on standardized aptitude, behavioral, and achievement tests; the interpretation of individual and group performance; and application within classroom settings. Required of all majors in special education.

330(5730) Educational Statistics (3)
Prerequisite: Meet the university standard for proficiency in basic mathematical skills. Statistical methods for advanced undergraduate and beginning graduate students: descriptive statistics, probability and sampling, and introduction to hypothesis testing and inferential statistics.

404(6404) Seminar (1-10)
Prerequisite: Consent of instructor. Educational research and evaluation methods seminar addressing special issues and topics not normally included in the regular statistics, research methods, evaluation, and measurement courses.

412(6705) Evaluation of Data Analysis Programs (3)
Prerequisite: Graduate admission and an introductory statistics course or consent of instructor. Principles and procedures for assessing the quality and effectiveness of data analysis computer programs and packages in educational research. Review and evaluation of various computer programs and packages used in educational research.

420(6707) Classroom Measurement and Evaluation (3)
Prerequisites: Graduate admission or consent of instructor. An introductory graduate course to classroom testing and evaluation. Topic areas include comparison of criterion-and norm-referenced theory and technique; classical test theory, reliability, validity and associated descriptive statistics; derived and transformed scores; preparation of instructional objectives for use in developing the classroom test; performance evaluations, and portfolio rubrics.

421(6709) Educational and Psychological Measurement (3)
Prerequisite: Graduate admission or consent of instructor. An introductory graduate course in testing and measurement theory: reliability, validity, and associated descriptive statistics; correlation and simple regression; derived and transformed scores; interpretation of test scores; measurement of aptitude, vocational interests, and personal-social adjustment.
422(6716) Psycho-Educational Assessment I (3)
Prerequisite: Ed Rem 420(6707) or Ed Rem 421(6709), or Ed Rem 321(3721), and consent of instructor. An advanced assessment course for school psychologists that provides training in the administration and use of individual tests of psychomotor abilities, diagnostic interviewing, functional assessment, and social-emotional assessment with an emphasis on writing integrated reports with meaningful recommendations.

423(6718) Psycho-Educational Assessment II (3)
Prerequisites: Ed Psy 422, or Cns Ed 414(6050), and consent of instructor. An advanced assessment course for school psychologists that provides training in the administration, scoring, interpretation, and reporting of results of individual and group tests of psychomotor ability, academic achievement, and oral language skills.

431(6710) Educational Research Methods and Design (3)
Prerequisite: An introductory statistics course or Ed Rem 420(6707), or 421(6709), or consent of instructor. An introductory course in educational research methodology: comparison of various types of qualitative and quantitative educational research, threats to internal/external validity, sampling methods, data analysis, and components of research reports.

432(6712) Survey Research Methods in Education (3)
Prerequisite: An introductory statistics course or Ed Rem 431(6710) or consent of instructor. (Same as Political Science 406(6406) and Soc 432(5432).) A course on the principles and procedures for conducting survey research. Topics include forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

441(6714) Action Research in Education (3)
Prerequisite: Ed Rem 431(6710) or consent of instructor. A course that engages the participants in systematic qualitative inquiry into their own practice: framing appropriate questions; gathering and interpreting data; analyzing culture, subjectivity and multiple perspectives; and reporting the results ("telling the story"). Readings will address the methods, politics, and ethics of action research. Enrollment requires access to a field setting.

442(6720) Nonparametric Statistics in Education (3)
Prerequisite: Ed Rem 431(6710) or consent of instructor. An advanced educational research methods course in alternative analysis procedures to classical parametric statistics. Nonparametric methods are surveyed and their data requirements compared to their parametric counterparts. Educational research problems appropriate to or adaptable to these methods are studied.

451(6730) Educational Program Evaluation (3)
Prerequisites: Admission to doctoral education and Ed Rem 431(6710) or consent of instructor. A course on the principles and procedures for assessing the quality and effectiveness of programs, projects, and materials related to planned interventions and system changes in educational settings.

455(6732) Advanced Theory and Practice in Program Evaluation (3)
Prerequisites: Ed Rem 451(6730) or consent of the instructor. Extension of the principles, attributes, and practices of program evaluation to contemporary problems and settings. Study will include the comparison of examples of the program evaluation process. Focus will be on adherence to the Program Evaluation Standards endorsed by leading professional research and evaluation associations.

460(7711) Advanced Test Theory in Education (3)
Prerequisite: Admission to doctoral education and Ed Rem 420(6707), or Ed Rem 421(6709), or consent of instructor. An advanced course in measurement theory and practice: issues of reliability, validity, and item analysis for both criterion and norm referenced tests; introduction to factor analysis in the development and analysis of test structure and validity; introduction to item response theory for the improvement of educational testing and research.

471(7771) Quantitative Research Methods I (3)
Prerequisites: Admission to doctoral education and Ed Rem 431(6710) or consent of instructor. An advanced educational research methods course: hypothesis testing using factorial analysis of variance; analysis of covariance; and the general linear model.

472(7772) Quantitative Research Methods II (3)
Prerequisite: Ed Rem 471(7771) or consent of instructor. An advanced educational research methods course: multivariate analysis of variance; canonical correlation, discriminant function analysis, factor analysis; cluster analysis; advanced topics in multiple linear regression; and associated research design issues.

473(7773) Quantitative Research Methods III (3)
Prerequisite: Ed Rem 472(7772). An advanced educational research methods course using multiple linear regression models, path analysis, and structural equation modeling. Focus is on the theory, issues, and application of these advanced data analysis techniques.
481(7781) Qualitative Methods in Educational Research I (3)
Prerequisites: Admission to doctoral education and Ed Rem 431(6710) or consent of instructor. An introductory qualitative research methods course in education to develop skill in forming research questions, writing field notes, and collecting, organizing, and analyzing a variety of data. Philosophical and ethical issues in qualitative research are presented.

482(7782) Qualitative Methods in Educational Research II (3)
Prerequisite: Ed Rem 481(7781) or consent of instructor. An advanced qualitative educational research methods course to address the issues of sampling strategies, observational and interview techniques, and data analysis. Requires access to a field setting to conduct a qualitative research study.

490(6990) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems (1-10)
Prerequisites: At least one previous Ed Rem course and consent of course supervisor. Individual study on topics pertaining to educational measurement, evaluation, statistics, and research design.
Division of Teaching and Learning

Faculty

Scot Danforth, Chair, Associate Professor**
Ph.D., University of South Florida-Tampa
Philip Ferguson, E. Desmond Lee Professor
in Education of Children with Disabilities
Ph.D., Syracuse University
Carl Hoagland, Emerson Electric Company Professor in
Technology and Learning
Ed.D., University of Massachusetts
William C. Kyle, E. Desmond Lee Family Professor of
Science Education**
Ph.D., University of Iowa
Louis Lankford, Des Lee Foundation Endowed Professor
in Art Education*
Ph.D., Florida State University
James Shymansky, E. Desmond Lee Family Professor of
Science Education
Ph.D., Florida State University
Patricia Simmons, E. Desmond Lee Professor in Life-
Long Learning for the Sciences
Ph.D., University of Iowa
Douglas Turpin, E. Desmond Lee and Family Fund
Endowed Professor in Music Education
Ed.D., Washington University
Richard W. Burnett, Professor Emeritus*
Ed.D., Indiana University
Richard J. Friedlander, Professor**
Ph.D., University of California-Los Angeles
Charles Granger, Professor**
Ph.D., University of Iowa
Kathleen M. Haywood, Associate Dean for Graduate
Education, Professor**
Ph.D., University of Illinois-Urbana-Champaign
Wallace Z. Ramsey, Professor Emeritus*
Ed.D., University of Missouri-Columbia
Blanche M. Touhill, Professor*; Chancellor
Ph.D., Saint Louis University
Paul D. Travers, Professor Emeritus**
Ed.D., George Peabody College
Doris A. Trojek, Professor Emerita*
Ed.D., Indiana University
Harold E. Turner, Professor Emeritus*
Ed.D., George Peabody College
Judith Walker de Felix, Professor*, Associate Vice
Chancellor for Academic Affairs; Dean of Graduate
School
Ph.D., University of Florida
Huber M. Walsh, Professor Emeritus*
Ed.D., University of California-Los Angeles
Fred Willman, Professor*
Ph.D., University of North Dakota
Jane Zeni, Professor**
Ed.D., University of Missouri-St. Louis
Bruce A. Clark, Associate Professor Emeritus*
Ph.D., University of Illinois

College of Education
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Dianne Ferguson, Associate Professor
Ph.D., Syracuse University
Harold Harris, Associate Professor*
Ph.D., Michigan State University
Allison K. Hoewisch, Associate Professor*
Ph.D., University of Southern Mississippi
Thomas J. Loughrey, Associate Professor*
Ph.D., University of Iowa
Helene J. Sherman, Associate Dean, Associate
Professor**
Ed.D., University of Missouri-St. Louis
Charles G. Smith, Associate Professor; Athletic Director
Emeritus, M.S., Washington University
Gwendolyn Turner, Associate Professor**
Ed.D., University of Arkansas
Cathy Vatterott, Associate Professor*
Ph.D., Saint Louis University
Gayle Wilkinson, Associate Professor**
Ed.D., University of Illinois
George J. Yard, Associate Professor Emeritus*
Ph.D., Saint Louis University
Pamela C. Ashmore, Assistant Professor
Ph.D., Washington University
Corey Drake, Assistant Professor
Ph.D., Northwestern University
Kevin Fernald, Assistant Professor
Ph.D., University of New Mexico
Jane Fleming, Assistant Professor
Ph.D., Northwestern University
Karen Hirsch, Assistant Professor
Ph.D., University of North Carolina
Joseph L. Polman, Assistant Professor
Ph.D., Northwestern University
Kim Song, Assistant Professor
Ed.D. Southern Illinois University-Edwardsville
Laura Westhoff, Assistant Professor
Ph.D., Washington University
Sheridan Wigginton, Assistant Professor
University of Missouri-Columbia
Linda Cason, Lecturer; Director, Gateway Writing
Project;
M.Ed. Webster University
Jacquelyn A. Lewis-Harris, Lecturer
M.A., Washington University
Lynn Navin, Lecturer; Director, University Child
Development Center
M.Ed., Michigan State University
* members of Graduate Faculty
** members of Doctoral Faculty

General Information

The faculty of the Division of Teaching and Learning has
their offices on the 2nd and 3rd floors in Marillac Hall and
in the Mark Twain Building. Information about course
offerings and related matters on all programs except
physical education may be obtained in 369 Marillac Hall.
The physical education offices are located at 234 Mark Twain Building. The division coordinates programs leading to a B.S. in education degree in:

**Early Childhood Education**  
**Elementary Education**  
**Physical Education**  
**Secondary Education**  
**Special Education**

And the B.E.S. degree in:

**Early Childhood Education**  
**Exercise Science Education**  
**Professional Education**

Programs leading to the M.Ed. in elementary education, secondary education, and special education also are coordinated in the Division of Teaching and Learning.

The early childhood undergraduate program is designed for students wishing to teach and direct programs for children from pre-kindergarten through grade three. Students electing this program will work directly with young children as a part of their professional courses.

The graduate program is designed to develop master-level educators through a common core of essential knowledge and experiences drawn from current research and practice in the field of early childhood education. Through this program, candidates are able to further their competencies as educators, directors, program planners, and curriculum developers in various early childhood settings. Students can complete additional course work to receive certification.

The elementary education program prepares students to teach in grades one through six. Students may also tailor a program leading to a middle school/junior high teaching certificate. A special feature of these programs is the many opportunities to work with children in schools as part of the professional course work.

The graduate program strives to develop and refine the concept of the "teacher as researcher" or the "teacher as reflective decision maker or problem solver." It is based on the premise that as professionals, teachers must understand both the products and findings of research and the underlying processes that influence their professional practice.

Students may choose a program leading to the M.Ed. in education, generalized or specialized elementary education or elementary education with Missouri certification in reading.

The physical education program coordinates work in physical education, which leads to a B.S. in education degree with certification to teach either PK-9 or K-12.

The elementary education and secondary education graduate programs provide courses for graduate students who choose physical education as their teaching field.

The secondary education program prepares students for teaching these subjects in secondary schools (grade 9-12): biology, business, chemistry, English, French, German, history, mathematics, music, physics, psychology, social studies, speech and Spanish. A special feature of these programs is the close interdisciplinary cooperation between the professional school and other university departments.

Students may also choose to pursue the bachelor's degree in the College of Arts and Sciences plus certification, or the B.S. in education degree, which includes Missouri certification. Business education students have only the College of Education option.

At the graduate level, the division provides a program leading to an M.Ed in secondary education with emphasis in: adult education, certification studies with adult basic education, secondary education with emphasis in reading, and secondary education and certification. It offers graduate degree work and advanced certification studies in elementary and secondary school administration, special education administration, and the school superintendency.

The special education program prepares students to teach learners with developmental disabilities, emotional/behavioral disorders, learning disabilities, or in early childhood special education settings. Students also receive certification as regular elementary school teachers upon completion of the curriculum. Missouri certification standards require a student teaching experience in each area of special education.

At the graduate level, requisite course work for Missouri certification in special education is available, as is the M.Ed. Degree.

Note The State Board of education developed standards for renewable professional certificates, based on specific requirements for training and experience. Details regarding these standards are available in the office of undergraduate studies in education.

**Bachelor of Educational Studies**

**Admission Requirements**
To be admitted to the Bachelor of Educational Studies Program an applicant must:

- Be regularly admitted to the College of Education.
Have a UM and overall cumulative grade point average of 2.5 on a 4.0 scale.
• Have a 20 on the ACT or 800 on the SAT
• Have a 235 on each subtest of the CBASE.
• Complete English 10 with a C or better.
• Complete Mathematics 30 with a C or better
• Have at least 45 hours of college credit.
• Complete an application for the Bachelor of Educational Studies and secure appropriate signatures.

The B.E.S. is professional degree designed for individuals who wish to study education as a scholarly discipline but who do not wish to prepare for the professional practice for education in the K-12 schools of this state or nation. Three emphasis areas are available: early childhood education; exercise science; and professional education studies.

General Education Requirements

Students entering college first time Fall 2002 should refer to the Introductory section of this bulletin for their General Education Requirements.

Communicative Skills (2 requirements)
• All students must complete a freshman English composition course with a grade of C- or better.
• All students must complete English 210—Advanced Expository Writing, or its equivalent, with a grade of C- or better.

Mathematical Skills
• A grade of C- or better in a college-credit mathematics course having at least intermediate algebra as a prerequisite, or
• A satisfactory score on the university's Mathematics Proficiency Test.

Breadth of Study (minimum 42 hours in the following three areas with at least three courses in each area)
• Humanities
• Natural sciences and mathematics
• Social sciences

Other Requirements
• American History or Government (course taken at the University of Missouri or at other colleges or universities in Missouri)

Degree Requirements

Cultural Diversity Requirement (3 hours)
• Ed Psy 312(3312)/Tch Ed 312(3312), The Psychology of Teaching and Learning (3 hours)
• Communication 40(1040), Introduction to Public Speaking (3 hours)
• 6 hours in Psychology or Educational Psychology numbered 200 or higher

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• Ed 290(2290), Internship (6 hours)
• Ed 291(2291), Internship (6 hours)
• At least one of the following:
  • Phy Ed 282(3282), Physical Growth and Motor Development (3 hours)
  • Ed Psy 211, Growth and Development, Ed Psy/Tch Ed 212(2212), (3 hours), Introduction to learners and Learning (3 hours), or equivalent
  • Psy 272(2272), Adult Development and Aging (3 hours; same as Gerontology 272(2272))

Emphasis in Early Childhood

One of the following two:
• Tch Ed 211(2211), Introduction to American Schools (3 hours or equivalent)
• Phy Ed 282(3282), Physical Growth and Motor Development (3 hours)
All of the following:
• Tch Ed 313(3313), Introduction to Learners with Disabilities and Inclusive Education. (3 hours) or equivalent
• Ech Ed 303(3303), Curriculum and Practice Laboratory: Infant/Toddler (1 hour)
• Ech Ed 304(3304), Curriculum and Practice Laboratory: Preschool (1 hour)
• Ech Ed 312(3312), Introduction to Early Childhood Education (3 hours)
• Ech Ed 313(3313), Curriculum and Practice: Infant/Toddler (2 hours)
• Ech Ed 314(3314), Curriculum and Practice: Preschool (2 hours)
• Ech Ed 317(4317), Assessing Individual Needs for Early Childhood Instruction (3 hours)
• Ech Ed 331(4331), Language Acquisition and Development in Early Childhood (3 hours)
• Ech Ed 332(3332), Literacy (3 hours)
• Ech Ed 346(4346), The Acquisition of Mathematical Concepts (3 hours)
Total: 27 hours
Second Concentration: Electives to total 12 hours to be chosen from Ech Ed, Ele Ed, Spc Ed, Ed Tec, Ed Rem, or an area chosen in consultation with the adviser.

Emphasis in Exercise Science

All of the following:
• Bio 113(1131), Human Physiology and Anatomy I (4 hours)
• Bio 114(1141), Human Physiology and Anatomy II (4 hours)
• Phy Ed 204(3204), Special Topics in Physical Education (1-3 hours)
• Phy Ed 283(3283), Kinesiology (3 hours)
• Phy Ed 284(3284), Physiology of Human Exercise (3 hours)
• Phy Ed 285(3285), Sports Medicine (3 hours)
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- Phy Ed 287, Seminar in Exercise Science (3 hours)
  At least 6 credits from the following:
  - Phy Ed 261(3261), Physical Activity for the Exceptional Learner (2 hours)
  - Phy Ed 275(3275), Psychological Aspects of Physical Education
  - Phy Ed 330(5330), Prescribing Physical Activity (3 hours)
  - Phy Ed 331(5931), Adult Exercise Leadership (3 hours)
  - Phy Ed 380(5380), Nutrition for Human Performance (3 hours)
  Total 27-29 hours
  Second concentration: Electives to total 12 hours to be chosen from an area not selected above or ECH ED, PHY ED, TCH ED, CNS ED, ED PSY, ED REM or ED TEC.

Candidates for the Bachelor of Educational Studies degree must achieve a cumulative grade point average of at least 2.750, complete 24 of the last 30 hours in residence at UM-St. Louis, and be recommended by the faculty of the College of Education.

Emphasis in Professional Education Studies

27 hours in one of the following, numbered 200 or above:
Ele Ed, Spc Ed, Sec Ed.

Second Concentration: Electives to total 12 hours to be chosen from an area not selected above or ECH ED, PHY ED, TCH ED, CNS ED, ED PSY, ED REM or ED TEC.

Early Childhood Education (Ech Ed)
Undergraduate Studies

Bachelor of Science in Education: Early Childhood

This program is designed for students wishing to teach and direct programs for children from birth through grade three.

General Education Requirements:
Students entering college first time, Fall 2002 should refer to the Introductory section of this Bulletin for their General Education Requirements.

English and Communication (9 hours)
English 10(1100), Composition
English 210(3100) or 212(3120), Advanced Expository Writing

Communication: 3 hours
Mathematics (3 hours)
Math 50(1150), Structure of Mathematical Systems I
Biological Science: includes lab (5 hours)
General Biology 001/Lab 003(1012/1013)
Physical Science: includes lab (4 hours)

Humanities (8 hours)
Three courses from two of the following fields: art, music, philosophy, and literature.

Social Science (15 hours)
Psych 3(1003), General Psychology
PolSci 11(1100), Introduction to American Politics, or equivalent
and one of the following history courses
His 3, American Civilization
His 4(1002), American Civilization
and the following courses:
Pol Sci 85(1850), Global Ecology
Soc 10(1010), Introduction to Sociology, or any anthropology course.

Degree Requirements
Students are required to take the general education requirements as indicated for early childhood education above.

Level I: Exploring Education as a Profession

Tch Ed 210(2210), Introduction to Teaching
Tch Ed 211(2211), Introduction to American Schools
Tch Ed 212(2212), Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education

Tch Ed 310(3310), Introduction to Instructional Methods
Tch Ed 312(3312), Psychology of Teaching and Learning
Tch Ed 313(3313), Introduction to Learners with Disability and Inclusive Education
Tch Ed 315(3315), Literacy Learning and Instruction
Phy Ed 130(3430), Elements of Health Education
Phy Ed 282(3282), Physical Growth and Motor Development

Level III: Synthesizing Theory and Practice in Education

Ele Ed 330(3330), Children's Literature and Reading
Ele Ed 336(3336), Teaching Language Arts and Reading, N-9
plus these Early Childhood Education (Ech Ed) courses:
Note: Ech Ed 290(3290) and Ech Ed 291(3291) must be taken during the same semester.
312(3312), Introduction to Early Childhood Education
317(4317), Assessing Individual Needs for Early Childhood
331(4331), Language Acquisition and Development in Early Childhood
332(3332), Early Literacy
346(4346), The Acquisition of Mathematical Concepts
313(3313), Curriculum and Practice: Infant/Toddler
314(3314), Curriculum and Practice: Preschool
315(3315), Curriculum and Practice: Primary
303(3303), Curriculum and Practice Laboratory: Infant/Toddler
304(3304), Curriculum and Practice Laboratory: Preschool
305(3305), Curriculum and Practice Laboratory: Primary
290(3290), Student Teaching in Early Childhood
Education I (6 hrs)
291(3291), Student Teaching in Early Childhood
Education II (6 hrs)

Attention education majors: Professional education
courses must be completed with a grade point average of
2.50 and no grade lower than a C- (2.0).
Total: A minimum of 120 hours

Graduate Studies

Master of Education: Elementary Education,
Concentration in Early Childhood Education

This program is designed to develop a master teacher
through a common core of essential
knowledge and experiences drawn from current research
and practice in early childhood education.

Core Competencies (12 hours):

Ele Ed 410(6410), Current Research in Early
Childhood and Elementary Programs.
Ele Ed 411(6411), Curricular Issues in the Elementary
School
Students may select two of the following courses:
Ele Ed 410, Foundations of Preschool Education
(strongly suggested)
Ed Psy 412(6310), Psychology of Learning Processes
Ed Psy 416(6215), Psychology of Early Childhood
Development
Ele Ed 490(6490), Internship
Ele Ed 497(6497), Problems

Content Competencies (minimum of 12 hours of course
work from the following areas):

Early Childhood Certification Courses
Early Childhood Electives
Other courses approved by adviser

Curricular Application Competencies (9 hours):

A measurement course is required before admission to the
exit course Ele Ed 423(6423) and one of the following is
suggested:

Ed Rem 420(6707), Classroom Measurement and
Evaluation
Ed Rem 421(6709), Educational and Psychological or
Measurement
Ed Rem 431(6710), Educational Research Methods (an
option if a prerequisite measurement course was completed
at the undergraduate level)
Ele Ed 422(6422), Curriculum Construction in Elementary
School

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Ele Ed 423(6423), Curriculum Implementation in
Elementary School

Career Outlook

The field of early childhood education has experienced a
marked increase in the demand for highly qualified and
professional prepared educators. As research continues to
focus on the crucial early years of development, the need
for trained professionals in early care and education will
continue to rise. Early childhood graduates at all degree
levels are attractive candidates for employment in a variety
of educational positions. The downward extension of ages
of schooling opens employment opportunities in the public
and private sector. Future expansions of opportunities in
schools are tied to population growth, increased
specialization of services, and reduction in ratios between
professional staff and children served. Additional career
opportunities exist for early childhood educators in
specialized childcare, private family care, instruction and
training, corporations, self-owned businesses, and family-
focused public and private agencies. Qualified early
childhood educators can and do make a powerful
difference in the lives of families and children.

Elementary Education (Ele Ed)

Undergraduate Studies
Bachelor of Science in Education: Elementary
Education

The elementary education program prepares students to
teach in grades one through six.

General Education Requirements:
English and Communication (9 hours)
English 10(1100), Freshman Composition
English 210(3100), Advanced Expository Writing
*Communication 40(1040), Introduction to Public
Speaking
Mathematics (6 hours)
Math 50(1150), Structure of Mathematical Systems I
Mathematics 151(2510), Structure of Mathematical
Systems II
Biological Science: includes lab (5 hours)
*General Biology 001/Lab 003(1012/1013)
Physical Science: includes lab (4 hours)
Humanities (8 hours)
Three courses from two of the following fields: art,
music, philosophy, and literature.
Social Science (18 hours)
Psych 3(1003), General Psychology
Pol Sci 11(1100), introduction to American Politics,
or equivalent
And one of the following history courses:
His 3, American Civilization
His 4(1002), American Civilization
Pol Sci 85(1850), Global Ecology
Soc 10(1010), Introduction to Sociology, or
Any anthropology course.
Econ 306(3052), Microeconomics for the School Curriculum

Program Requirements

Level I: Exploring Education as a Profession
Tch Ed 210(2210), Introduction to Teaching
Tch Ed 211(2211), Introduction to American Schools
Tch Ed 212(2212), Introduction to Learners and Learning

Level II:
Tch Ed 310(3310), Introduction to Instructional Methods
Tch Ed 312(3312), Psychology of Teaching and Learning
Tch Ed 313(3313), Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 315(3315), Literacy Learning and Instruction

Level III: Synthesizing Theory and Practice in Education
*Internship hours are met through special methods courses in Level III.

246(4246), Teaching Mathematics in the Elementary School
253(4253), Teaching Social Studies in the Elementary School
330(3330), Children's Literature and Reading
336(3336), Teaching Language Arts and Reading N-9
341(4341), Teaching of Science in the Elementary School
385, Teaching Reading in the Elementary School
389(3389), The Analysis and Correction of Reading Problems in the Classroom

*Note Ele Ed 290(3290) and Ele Ed 291(3291) must be taken during the same semester.

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C (2.0). A C- grade is not acceptable.

Postdegree certification students may take Ed Fnd 330(4330), History of American Education, or Ed Fnd 421(6421), Philosophy of Education, in lieu of Tch Ed 211(2211).

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the office of undergraduate teacher education, 155 Marillac Hall.

Total: 120 hours

Bachelor of Science in Education: Elementary Education (Middle School Certification)
This area of specialization in elementary education prepares students to teach in grades 5-9.

General Education Requirements
General education requirements are the same as for elementary education.

Related Area Requirement
Phy Ed 130(3430), Teaching Health in the Elementary School

Program Requirements

Level I: Exploring Education as a Profession
Tch Ed 210(2210), Introduction to Teaching
Tch Ed 211(2211), Introduction to American Schools
Tch Ed 212(2212), Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education
Sec Ed 315(4315), The Middle Level School
Ele Ed 316(4316), Middle Level Curriculum and Instruction

Related Area Requirements
Phy Ed 130(3430), Elements of Health Education
Phy Ed 165(4465), Physical Education Activities for the Elementary School
Ele Ed 177(2177), Elementary School Music
Ele Ed 179(2179), (Art 139), Art Activities for Elementary School

Program Requirements
Tch Ed 211(2211), Introduction American Schools
Ed Psy 312(3312), Psychology of Teaching and Learning
Tch Ed 313(2213), Instruction to Learners with Disabilities and Inclusive Education and these Elementary Education (Ele Ed) courses:
246(4246), Teaching Mathematics in the Elementary School
253(4253), Teaching of Social Studies in the Elementary School

*290(3290), Elementary School Student Teaching I
*291(3291), Elementary School Student Teaching II
330(3330), Children's Literature and Reading
336(3336), Teaching Language Arts and Reading, N-9
341(4341), Teaching of Science in the Elementary School
385, Teaching Reading in the Elementary School
389(3389), The Analysis and Correction of Reading Problems in the Classroom

*290(3290) and Ele Ed 291(3291) must be taken during the same semester.

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C (2.0). A C- grade is not acceptable.

Postdegree certification students may take Ed Fnd 330(4330), History of American Education, or Ed Fnd 421(6421), Philosophy of Education, in lieu of Tch Ed 211(2211).

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the office of undergraduate teacher education, 155 Marillac Hall.

Total: 120 hours

Bachelor of Science in Education: Elementary Education (Middle School Certification)
This area of specialization in elementary education prepares students to teach in grades 5-9.

General Education Requirements
General education requirements are the same as for elementary education.

Related Area Requirement
Phy Ed 130(3430), Teaching Health in the Elementary School

Program Requirements

Level I: Exploring Education as a Profession
Tch Ed 210(2210), Introduction to Teaching
Tch Ed 211(2211), Introduction to American Schools
Tch Ed 212(2212), Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education
Sec Ed 315(4315), The Middle Level School
Ele Ed 316(4316), Middle Level Curriculum and Instruction

Related Area Requirements
Phy Ed 130(3430), Elements of Health Education
Phy Ed 165(4465), Physical Education Activities for the Elementary School
Ele Ed 177(2177), Elementary School Music
Ele Ed 179(2179), (Art 139), Art Activities for Elementary School

Program Requirements
Tch Ed 211(2211), Introduction American Schools
Ed Psy 312(3312), Psychology of Teaching and Learning
Tch Ed 313(2213), Instruction to Learners with Disabilities and Inclusive Education and these Elementary Education (Ele Ed) courses:
246(4246), Teaching Mathematics in the Elementary School
253(4253), Teaching of Social Studies in the Elementary School

*290(3290), Elementary School Student Teaching I
*291(3291), Elementary School Student Teaching II
330(3330), Children's Literature and Reading
336(3336), Teaching Language Arts and Reading, N-9
341(4341), Teaching of Science in the Elementary School
385, Teaching Reading in the Elementary School
389(3389), The Analysis and Correction of Reading Problems in the Classroom

*Note Ele Ed 290(3290) and Ele Ed 291(3291) must be taken during the same semester.

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C (2.0). A C- grade is not acceptable.

Postdegree certification students may take Ed Fnd 330(4330), History of American Education, or Ed Fnd 421(6421), Philosophy of Education, in lieu of Tch Ed 211(2211).

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the office of undergraduate teacher education, 155 Marillac Hall.
Level III: Synthesizing Theory and Practice in Education

Ele Ed 389(3389), The Analysis and Correction of Reading Problems in the Classroom
Sec Ed 305(4880), Writing for Teachers
Ele Ed 317(4317), The Middle level Child
Spc Ed 320(4320), Behavior Management

**Special Methods**
Along with education courses in Level III, students must take the appropriate special methods course congruent with the certification area(s) listed below:
Ele Ed 336(3336), Teaching Language Arts and Reading, N-9
Ele Ed 253(4253), Teaching of Social Studies in the Elementary School
Ele Ed 246(4246), Teaching Mathematics in the Middle School
Ele Ed 341(4341), Teaching of Science in the Elementary School
Ele Ed 291(3291), Student Teaching

**Area of Concentration for State Certification**
Middle School certification 5-9 requires a minimum of 21 hours for certification in the specific content of language arts, social studies, math, or science. Contact the office of undergraduate teacher education, 155 Marillac Hall, for specific content area courses.

**Attention education majors:** Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C- is acceptable.

**Minimum of 120 hours.**

**Graduate Studies**

**Master of Education: Elementary Education**

**General Curricular Program or Specialization in Selected Curricular Areas**
The M.Ed. student in elementary education may elect a general program or the emphasis in reading. Please note, however, that in either case the degree is the master of education in elementary education. Diplomas and transcripts do not show areas of specialization, nor are special certificates awarded.

1) **Core Competencies (12 hours)**
To include Ele Ed 410(6410), Current Research in the Elementary School Curriculum; Ele Ed 411(6411), Curricular Issues in the Elementary School; and 6 hours selected, in consultation with advisers, from among cognate fields or professional education.

2) **Content Competencies (12 hours)**
Students desiring to specialize through a sequence of courses should select at least 9 hours in one of the following areas: children's literature, early childhood, language arts, mathematics education, reading, science

**College of Education**

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Education, social studies education, or special education.

Students who elect a general sequence should take no more than 6 hours in any one area.

3) **Curricular Applications Competencies (9 hours)**
Students must select, in consultation with their advisers, a measurement course, and complete the following: Ele Ed 422(6422), Curriculum Construction in Elementary Schools, and Ele Ed 423(6423), Curriculum Implementation in the Elementary School.

Upon completion of Ele Ed 410(6410) and Ele Ed 411(6411) in phase one, each candidate selects a curricular area or areas, identifies an adviser from the elementary and early childhood education faculty, and plans appropriate course sequences. A candidate enrolling in the specialist program should select an adviser in the area of specialization.

The sequence of courses, Ele Ed 410(6410) and Ele Ed 411(6411), should be taken at the beginning of the program; Ele Ed 422(6422) and Ele Ed 423(6423) constitute the final two program courses. Students should note that Ele Ed 411(6411) is typically offered only during the winter and summer semesters, Ele Ed 422(6422) is offered only during the fall semester and Ele Ed 423(6423) only during the winter semester.

Electives should be selected according to candidates' needs and/or interests.

**Emphasis in Reading**
The M.Ed. program with emphasis in reading is designed to enable candidates to further their competencies as reading teachers and prepares them for positions as remedial reading specialists, reading consultants, and/or for further graduate study. The minimum required and recommended courses are as follows:

1) **Core Requirements**
At least one graduate-level course in each of the following areas: learning psychology; research, statistics, and measurement; and elementary curriculum.

2) **Courses in Reading**
The following required courses in reading should be taken in sequence. Courses denoted by asterisks are required for certification in remedial reading by Missouri teacher certification regulations. Students, with their advisers' permission, may substitute other courses for any requirement if they have had a recent upper-class undergraduate course covering the same material.

**Required are:**
*Ele Ed 385, Teaching Reading in the Elementary School*
*Sec Ed 386, Teaching Reading in Secondary School*

**Content Areas**
These elementary education (Ele Ed) courses:
*486(6486), Clinical Diagnosis and Treatment of Reading Disabilities
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Division of Teaching and Learning

*493(6493), Clinical Methods in Child Study I
*494(6494), Clinical Methods in Child Study II

Note Ele Ed 493(6493) is offered in Fall and Summer Semesters; Ele Ed 494(6494) is offered in the Winter and Summer. and also:
Ele Ed 482(6482), Problems and Research in Teaching.

Elementary School Reading (offered only in the winter semester)

*Ed Rem 420(6707), Classroom Measurement and Evaluation
*Spc Ed 315(4315), Speech and Language Problems, or
*Ech Ed 331(4331), Language Acquisition and Development
*Spc Ed 320(4320), Behavior Management
*Cns Ed 310(3000), Introduction to the Counseling Profession
*Ed Psy 417(6220), Psychology of the Elementary School Child
*Ed Psy 418(6225), Psychology of Adolescence

Note Spec Ed 412(6412), Psychology of Exceptional Children, is required for certification if it has not been taken previously at the undergraduate or graduate level. It is not a degree requirement.

3) Electives
Following is a list of possible elective courses. Other courses may be selected from cognate fields after conferring with an adviser in reading.

English 220, Development of the English Language
Ed Fnd 421(6421), Philosophy of Education
Adu Ed 311(4311), Teaching Basic Reading Skills to Adults
Ele Ed 484(6484), Developmental Reading (K-13)
Ele Ed 488(6488), Supervision of School Reading Programs

Certification Options
A combined M.Ed. and certification option exists. Options include elementary education (1-8), early childhood education (PK-3), and middle school/junior high (4-9). Students should consult certification advisers. Graduate credit will not be given for courses at the 100 or 200 level.

Career Outlook

Undergraduate and graduate degrees in elementary education are most directly applicable to teaching at the level appropriate to the program emphasis. Increasing specialization of teaching assignments and downward extensions of ages of schooling continue to open employment opportunities. As in the past, elementary education graduates at all degree levels also continue to be attractive candidates for employment in many positions, which require (or are well suited to) training in social and behavioral sciences. Positions in constant contact with and service to the general public such as sales, service, public relations, and general business are most common examples. Future expansions of opportunities in schools are tied to population growth, increased specialization of services, and reduction in ratios between professional staff and children served. Many currently employed teachers will retire within the next 5-10 years; consequently, a shortage of teachers is anticipated.

Physical Education (Phy Ed)

Undergraduate Studies

Bachelor of Science in Education: Physical Education

This program prepares students to teach physical education. Individuals can be certified for grades PK to 9 only or for grades PK to 12.

Communication Skills (9 hours)
English 10(1100), Freshman Composition
English 210(3100), Advanced Expository Writing or equivalent
Communication 30(1030) or 40(1040)

General Education Requirements (42 hours required):
Students entering college first time, Fall 2002 should refer to the Introductory section of this Bulletin for their General Education Requirements.

Humanities (8 hours)
Three courses from two curricular designations in the humanities (Symbol H).

Social Science (9 hours)
One course in American history
One course in American government
Psych 3(1003), General Psychology

Natural Science (8 hours)
One course in a physical or earth science
One course in a biological science.
At least one of these courses must have a laboratory component.

Mathematics (3 hours)
One college-level mathematics course

Note: All of the courses above must be a minimum of two semester hours.

Electives 11-14 hours
PK-9 Emphasis

The following theory of physical education (Phy Ed) courses are required, 31 hours, to be taken with Level I professional education courses:

234(3434), Teaching of Wellness and Health Related Fitness (4 hrs)
261(3261), Physical Activity for the Exceptional Learner (2 hrs)
267(3267), Performance Analysis in Physical Education (3 hrs)
275(3275), Psychological Aspects of Physical Education (3 hrs)
277(3277), Historical/Philosophical Foundations of Physical Education and Sport (2 hrs)
280(3280), Human Anatomy and Physiology, (5 hrs)
282(3282), Physical Growth and Motor Development (3 hrs)
283(3283), Kinesiology (3 hrs)
284(3284), Physiology of Human Exercise (3 hrs)
285(3285), Sports Medicine (3 hrs)

The following courses in teaching of skills are required in physical education (Phy Ed), 14 hours, to be taken with Level II professional education courses. These courses are required:
220(3420), Teaching of Skills: Movement and Rhythms (3 hrs)
221(3421), Teaching of Skills: Dance (3 hrs)
222(3422), Teaching of Skills: Grades PK-4 (4 hrs)
223(3423), Teaching of Skills: Grades 5-9 (4 hrs)

The following professional education courses are required (31 hours):

Level I: Exploring Education as a Profession
Tch Ed 210(2210), Introduction to Teaching
Tch Ed 211(2211), Introduction to Schools
Tch Ed 212(2212), Introduction to Learners

Level II: Analyzing the Nature and Process of Education
Tch Ed 312(3312), Psychology of Teaching and Learning
Tch Ed 313(3313), Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 386, Teaching Reading in Secondary School Content Areas
Phy Ed 268(3468), The Curriculum and Methods of Teaching Physical Education

Level III: Synthesizing Theory and Practice in Education
Internship hours are met through the teaching of skills courses
Phy Ed 290(3990), Student Teaching in Physical Education PK-5
Phy Ed 291(3991), Student Teaching in Physical Education 5-9

Total: 127 hours

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C-.
Level III: Synthesizing Theory and Practice in Education

Internship hours are met through the teaching of skills. Courses. Two of the following three:

- Phy Ed 290(3990), Student Teaching in Physical Education PK-5
- Phy Ed 291(3991), Student Teaching in Physical Education 5-9
- Phy Ed 292(4992), Student Teaching in Physical Education 9-12

Minimum: 133 hours

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C-.

Athletic Coaching Minor

An athletic coaching minor is available (minimum of 20 hours). The following courses are required:

- Phy Ed 283(3283), Kinesiology
- Phy Ed 224(3424), Teaching of Skills: Grades 9-12
- Phy Ed 312(5312), Management of Sports Programs
- Phy Ed 330(5330), Prescribing Physical Activity

All courses apply to, but do not complete, teaching certification in Missouri.

Health Certification

For those with a valid teaching certificate in physical, courses are available to obtain an additional endorsement in health education.

Master of Education: Elementary or Secondary Education with Physical Education as Teaching Field

A significant number of graduate students choose physical education as the teaching field within one of the master of education degree options. Most are currently employed as teachers of health and/or physical education. Certification requirements in Missouri mandate the completion of a master's degree to professionalize the certificate. Therefore, a full complement of graduate courses relating to teaching in physical education is available to meet this need. For many who need to pursue teacher certification in physical education while pursuing the master's degree, most course work needed to meet state certification requirements can be taken in the master's program. For those employed outside education, an emphasis in exercise science is also available, providing a foundation of course work designed to prepare a person in this area. Specific information is available regarding each of these degree programs. Please consult with your graduate adviser to discuss the specific options and requirements.

Career Outlook

The employment outlook for physical educators in the schools continues to be positive, especially in the elementary and middle school levels. Recent placement years have yielded full employment opportunities to UM-St. Louis graduates. Rising school enrollments and the expected retirement of a significant portion of currently employed teachers signal optimistic outlooks for the next few years. In addition to elementary, middle school, and high school physical education teaching, more limited opportunities exist in athletic training, dance, research, sports management, and exercise leadership fields serving persons of all age categories.

Secondary Education (Sec Ed)

Undergraduate Studies

Bachelor of Science in Education: Secondary Education

Two secondary education programs prepare students to teach in grades 9 through 12: Bachelor of Science in Secondary Education through the College of Education (B.S.Ed.) OR Bachelor of Arts in a department of the College of Arts and Sciences (B.A.) with certification in Secondary Education

General Education Requirements

Students entering college first time, Fall 2002 should refer to the Introductory section of this bulletin for their General Education Requirements.

B.S. Ed. degree candidates must complete the following general education courses required by the College of Education and the Missouri Department of Elementary and Secondary Education.

Humanities

Three courses required from two of the following fields: music (excluding applied music), art, foreign language, Western and non-Western cultures, philosophy, literature, classical studies, and theater and drama.

Communication Skills

At least two courses in English composition and one in oral communications.

Social Studies

One course in each--American history and American government, and one additional course selected from the following areas: geography, sociology, economics, anthropology, and psychology.

Natural Science

One course in a physical or earth science; one course in a biological science. At least one of these courses must have a laboratory component.
Mathematics
One college-level mathematics course.

Note: All of the courses above must be a minimum of 2 semester hours.

Program Requirements
B.S.Ed. and B.A. certification candidates must complete the following courses:
Level I: Exploring Education as a Profession
Tcb Ed 210(2210), Introduction to Teaching
Tcb Ed 211(2211), Introduction to Schools
Tcb Ed 212(2212), Introduction to Learners

Level II: Analyzing the Nature and Process of Education
Tcb Ed 310(3310), Introduction to Instructional Methods
Tcb Ed 312(3312), Psychology of Teaching and Learning
Tcb Ed 313(3313), Introduction to Learners with Disabilities and Inclusive Education
Tcb Ed 386, Teaching Reading in Secondary School Content Areas

Level III: Synthesizing Theory and Practice in Education
Sec Ed 2xx, Curriculum and Methods of Teaching (specific subject area)

Professional Internship
Sec Ed 290, Student Teaching
Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C- is acceptable.

Note: Music education students take the following courses instead of Sec Ed 290: Sec Ed 293(3293), Student Teaching in Music Education K-6, and Sec Ed 294(3294), Student Teaching in Music Education 7-12. These two courses must be taken during the same semester.

Emphasis Areas: B.S.Ed. candidates must complete 30 to 50 hours of specific subject requirements in one of the following fields: English, foreign language (French, German, or Spanish), mathematics, music, unified science (biology, chemistry, or physics endorsement), or social studies. For specific subject requirements see the appropriate department listing in the Arts and Science section of this bulletin: Social Studies requirements are listed below:

Social Studies certification students must complete a major or an equivalent in hours in one of the following disciplines: anthropology, economics, geography, history, political science, psychology, or sociology and meet these minimum social science requirements: American history, 12 hours including History/Sec Ed 257(3257); European or world history, 9 hours including History/Sec Ed 258(3258); United States and/or state government, 6 hours including Political Science/Sec Ed 209(3209); economics, 3 hours; geography, 3 hours; and 2 hours of elective social studies credit. For emphasis area advising see the History Department.

Bachelor of Science in Education: Secondary Education with Emphasis in Business Education

General Education Requirements
B.S.Ed/ degree in Business Education candidates must complete the university general education requirements required by the College of Education and the Missouri Department of elementary and Secondary Education, the requirements for the program and the academic major

Program Requirements
Level I: Exploring Education as a Profession
Tcb Ed 210(2210), Introduction to Teaching
Tcb Ed 211(2211), Introduction to American Schools
Tcb Ed 212(2212), Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education
Tcb Ed 310(3310), Introduction to Instructional Methods
Tcb Ed 312(3312), Psychology of Teaching and Learning
Tcb Ed 313(3313), Introduction to Learners with Disabilities and Inclusive Education
Tcb Ed 386 Teaching Reading in the Secondary School Content Area

Level III: Synthesizing Theory and Practice in Education
Sec Ed 2xx Curriculum and Methods of Teaching (specific subject area)

Professional Internship
Sec Ed 290 Student Teaching

Academic major (36 hours required)
These secondary education (Sec Ed) courses:
162(2162), Computer Keyboarding and Formatting
261(3261), Methods of Teaching Keyboarding and Formatting
263(3263), Methods of Teaching Accounting
264(3264), Methods of Teaching Basic Business Subjects
*265(3265), Secretarial Practice
267(3267), The Secondary Business Curriculum
361(4361), Information Processing: Applications and Techniques of Teaching
367(4367), Methods of Teaching Desktop Publishing Concepts and Procedures
plus these Business Administration courses:
103(1800), Computers and Information Systems
140(2400), Fundamentals of Financial Accounting
145(2410), Managerial
156(2900), Legal Environment of Business
256(3900), Business Law I
206(3700), Basic Marketing and Econ 51(1001), Principles of Microeconomics

* Majors working toward shorthand certification must take this additional course, and are not required to take BA 206(3700)

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C-. Grades of C or better are required in all courses in the academic major.

Minimum of 120 hours

Electives
Electives are to be selected only after consulting with a faculty adviser.
Total: 120 hours

B.S. degree in Secondary Education with an Emphasis in Science-Physics

All candidates must enroll in a program that includes levels I, II, and III course work in the College of Education. In addition, students must complete the following Science Core Courses and the courses listed under Physics Endorsement:

Science core courses:
Philosophy 280(3380), Philosophy of Science
Biology
11(1811), Introductory Biology I
12(1821), Introductory Biology II
11(1111), Introductory Chemistry I
12(1112), Introductory Chemistry II
Geology 1(1001), General Geology
Atmospheric Science 1(1001), Elementary Meteorology
Biology 120(1202), Environmental Biology or another environmental science

Physics
111(1011), Physics: Mechanics and Heat
112(1012), Physics: Electricity, Magnetism, and Optics

Physics Endorsement
Physics
200(3200), Survey of Theoretical Physics
221(3221), Mechanics
223(3223), Electricity and Magnetism
231(3231), Introduction to Modern Physics
304(4310), Modern Electronics
311(4311), Advanced Physics Laboratory I
280(3232), or Education 240(3240), Methods of Teaching Science in Secondary Schools
Physics 283, Teaching Intern Seminar

Graduate Studies

Master of Education: Secondary Education

The M.Ed. program in secondary education is flexibly designed to allow for the special interests of teachers, department chairpersons, curriculum workers, instructional supervisors, reading specialists, and those working in adult education. Programs must be planned with advisers and meet the approval of the department, school, and Graduate School.

Degree Requirements for All Secondary Education M. Ed. Students
The minimum 32-hour program for all secondary education majors includes the following requirements:

Core Requirements (9 hours)
Ed Fnd 421(3421), Philosophy of Education
Sec Ed 415(3415), The Secondary School Curriculum
Sec Ed 420(6420), The Improvement of Secondary School Teaching

Exit Requirement (3 hours)
One of the following courses must be taken as part of the last 9 hours in the M.Ed. program in secondary education:

Ed Fnd 422(3422), Analysis of Educational Issues
Sec Ed 416(6416), Curriculum Construction for Secondary Schools

In addition to the above courses, the following is a third exit course option, limited solely to those in the adult education emphasis or business education-teaching field:

Adu Ed 490(6990), Internship (in adult education)

Any of the above courses, when not used to meet the exit requirement, may be included as an elective in the program.

Master of Education: Secondary Education with Emphasis in Curriculum and Instruction

The M.Ed. with an emphasis in curriculum and instruction is designed to enable candidates to further their competencies as teachers or curriculum/instructional leaders.

Degree Requirements (32 hours)

1) Core requirements (9 hours as specified above)

2) Curriculum/instruction core (8 hours) Courses are to be selected in consultation with an adviser in the curriculum/instruction field from among the following:
Sec Ed 315(4315), The Middle Level School
Section 386(4391), Teaching Reading in Secondary School Content Areas
Section 414(6414), Teaching the Gifted and Talented in Secondary School
Section 416(6416), Curriculum Schools Construction for Secondary
Section 422(6422), Individualizing Instruction in Secondary Schools
Phys Ed 462(6462), The Physical Education Curriculum

3) Teaching field core (8 hours)
Courses approved by the Graduate School for M.Ed. programs are to be selected in consultation with an adviser in secondary education.

4) Electives
Additional courses may be taken in the College of Education and/or curriculum and instruction areas to provide a consistent program upon the recommendation of the adviser.

Master of Education: Secondary Education with Emphasis in Adult Education

The M.Ed. with an emphasis in adult education is designed to enable candidates to further their competencies as teachers, administrators, and program planners in various adult education settings through the study of core courses in adult education, plus a minimum of 8 hours of elective work appropriate to the candidates' particular needs. Adult basic education practitioners can complete course requirements for certification within the scope of or independent from the master's degree program.

Degree Requirements (32 hours)

1) Core requirements (9 hours)
A course in educational foundations (3 hours)
A course in curriculum (3 hours)
A course in improvement of instruction (3 hours)

2) Adult education core (8 hours)
Courses are to be selected in consultation with an adviser in the adult education-teaching field including but not limited to:
Ad Ed 404(6404), Seminar in Adult Education Research
Ad Ed 410(6410), The Adult-Learner
*Ed Adm 480, Administration of Adult and Community Education
Ad Ed 490(6376), Internship, or
Ad Ed 497(6497), Problems in Adult Education

3) Electives
Following is a list of possible elective courses. Other courses may be selected after conferring with an adviser in adult education.

Ed Fnd 421(6421), Philosophy of Education
Sec Ed 415(6415), The Secondary School Curriculum

Section 420(6420), The Improvement of Secondary School Teaching
4) Exit Requirement (3 hours as specified above)

Total: 32 hours

Adult Basic Education Certification
*Ad Ed 311(4311), Teaching Basic Reading Skills to Adults
*Ele Ed 445(6455), Problems of Teaching Arithmetic in the Elementary School, or Ele Ed 346(4346), Advanced Methods in Elementary School Mathematics

*Eight semester hours from these six courses, and 3 hours of adult education electives, in addition to Sec Ed 313(3313), Psychology and Education of Exceptional Individuals, are required for five-year certification from the Missouri Department of Elementary and Secondary Education.

Adult Basic Education (ABE) Certification
1) Requirements for two-year teacher's certificate in ABE:
   a. Hold a bachelor's degree from a four-year college or university.
   b. Annual attendance at Department of Elementary and Secondary Education (DESE) approved adult basic education teacher certification workshops.

   (The two-year ABE certificate may be renewed twice. Requirements for a five-year certificate must be completed by the end of the sixth year.)

2) Requirements for a five-year teacher's certificate in ABE:
   a. Hold a bachelor's degree from a four-year college or university.
   b. Earn eight semester hours in DESE-approved adult education classes, institutes, or workshops.

   (The five-year ABE certificate may be renewed an unlimited number of times by repeating the requirements during the previous five years.)

Note: This would provide certification for (1) ABE teachers who are teaching less than half time and/or without a contract and/or not in a public school or an accredited private school and (2) ABE teachers with bachelor's degrees who have experience teaching adult, but do not have regular teacher certification. Information is available for professional certificates for full-time ABE teachers.

Master of Education: Secondary Education with Emphasis in Reading

The M.Ed. with an emphasis in secondary reading is designed to enable candidates to further their competencies as teachers of reading and to prepare for positions as reading specialists, reading consultants, and/or further graduate study.
Degree requirements (32 hours)

1) Core requirements (9 hours as specified above)

2) Reading core
Required courses in reading should be taken in the following sequence:
Sec Ed 386(4391), Teaching Reading in Secondary School Content Areas
Ele Ed 486(6486), Clinical Diagnosis and Treatment of Reading Disabilities
Ed Rem 422(6716), Individual Assessment of Cognitive Abilities
Ele Ed 493(6493), Clinical Methods in Child Study I
Ele Ed 494(6494), Clinical Methods in Child Study II
Ele Ed 482(6482), Problems and Research in Teaching Elementary School Reading

To complete Missouri reading certification for grades K-12, the following must be taken or have been completed at the undergraduate level. Students should see an adviser.

Spc Ed 315(4315), Speech and Language Problems of Exceptional Children, or
Ech Ed 331(4331), Language Acquisition and Development in Early Childhood
Spc Ed 320(4320), Behavior Management
Cns Ed 327(6000), Personal and Professional Development in Counseling
Ed Psy 417(6220), Psychology of the Elementary School Child
Ed Psy 418(6225), Psychology of Adolescence

3) The same exit requirement exists as outlined above for all students in the master of education degree program in secondary education.

Master of Education: Secondary Education and Certification
The M.Ed. in secondary education requires a minimum of 32 hours of graduate credit. Depending upon the area of secondary school specialization, certification may require from 28 to 36 semester hours of undergraduate course work, making a total of over 60 semester hours of graduate and undergraduate work. Under the combined program up to 15 hours of graduate courses may be substituted for the same number of undergraduate courses. Students seeking such certification must obtain advisement from the office of teacher education, the Department of Educational Studies, and from the appropriate faculty joint appointee in the Department of Educational Studies and respective Arts and Sciences department.

Degree Requirements

Required and recommended courses:
1) Professional requirements
All candidates must enroll in a program that includes levels I, II, and III course work in the College of Education.

2) Certification and M.Ed. requirements
Ed Psy 312(3312), The Psychology of Teaching and Learning
See Ed 386(4391), Teaching Reading in Secondary School Content Areas
Ed Psy 418(6225), The Psychology of Adolescence
Ed Fnd 421(6421), Philosophy of Education
See Ed 415(6415), The Secondary School Curriculum
Spc Ed 416(6416), Current Research in Psychology of Learners with Disabilities

Electives
Selected graduate courses, including at least eight hours in the teaching specialty or in curriculum/instruction.

Career Outlook
Secondary school teaching positions are more plentiful than in the recent past. Most certificated teachers can find jobs if they are willing to go where there are openings.

Teachers of mathematics and the sciences are in extremely high demand. The fields of humanities and social sciences have somewhat better immediate prospects than in the past. The preparation that teacher education graduates receive enables them to do well in service and sales positions. Job opportunities in the educational and retraining facets of these fields are good.

People with preparation in secondary education, educational technology, adult education, and educational administration find positions in education/training units in businesses, industries, health care organizations, governmental units, community agencies, and service institutions.

School administration opportunities are available to qualified individuals; particularly those who have completed advanced graduate programs. Community education is an expanding field and will need increasing numbers of people with preparation in that specialty.

Graduate Certificate in the Teaching of Writing, Gateway Writing Project
Jointly housed in the Division of Teaching and Learning and the Department of English, this Graduate Certificate prepares teachers at all levels (K-12, college, adult) to improve their students' performance in writing. The program also emphasizes using writing as a means to promote learning in all content areas. All courses provide opportunities for teachers to write, revise, share feedback, and reflect on their own writing development. Based on the National Writing Project's core belief that teachers of writing must themselves be writers, the Graduate Certificate in the Teaching of Writing brings together sound pedagogy, composition theory, and writing practice.

The Certificate is an 18-hour program through the Gateway Writing Project (GWP); it may also be
coordinated with other graduate programs. Certificate courses may be applicable to the M.A. in English with emphasis in composition or to various M.Ed. programs. The GWP Certificate is especially appropriate for post-master's candidates who wish to pursue a specialization in teaching writing. The Graduate Certificate in the Teaching of Writing requires a 12 semester-hour core of courses developed by the Gateway Writing Project: The GWP invitational institute (6 hrs), a designated "topics" course (3 hrs.), and an exit course (3 hrs.). The Certificate requires a minimum of 12 semester hours at the 400 level or above. Electives (6 hrs.) may be chosen from approved offerings in English or Education.

Admission:
Applicants must be admitted to Graduate School and be selected by the faculty admissions committee for the Gateway Writing Project's Certificate in the Teaching of Writing. The committee will review candidates on the basis of an interview, an application essay, and supporting documentation. Criteria include experience teaching writing at any level and academic record, especially in writing and the teaching of writing.

Prerequisites:
- Eng/SecEd305(4880), "Writing for Teachers" or an equivalent course in teaching writing
- Coursework or competency in basic computer application.

Required Core Courses (12 semester hours)
- Eng317(4850)/TchEd 317(5850), Topics in the Teaching of Writing (designated topics, 3 sem. hrs.)
- Eng 490(5880)/SecEd 436(6880), future TchEd(6880), Gateway Writing Project (Invitational Institute, 6 sem. hrs.)
- TchEd. 446(6890), Seminar in Professional Writing for Teachers (exit course, 3 sem. hrs)

Electives (6 semester hours)
Electives may be chosen from other Gateway Writing Project offerings OR from courses offered by the appropriate academic department with advisor's approval. These electives must include at least one more 400 level course.

Suggested electives applicable to an MA in English with writing emphasis:
- Eng. 485(5840), Theories of Writing
- Eng. 487(5860), Writing/Reading Theory
- Eng. 488(5870), Composition Research
- Eng. 489(5890), Teaching College Writing
- Eng. 410(5800), Modern Linguistics

Suggested electives applicable to an M.Ed. in Elementary or Secondary Education
- El. Ed. 387(4387), Lang. & Literacy Needs of Diverse

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**College of Education**
**Division of Teaching and Learning**

- Children
- El. Ed. 430(6430), Problems in Teaching Language
- Arts
- Sec. Ed. 430(6430), Problems in Teaching English in
  - Sec. School
- El. Ed. 432(6432), Research in Language Arts
- El. Ed. 482(6482), Problems & Research in
  - Elementary Reading
- Ed. REM 441(6714), Action Research

Courses in adult and higher education may also be appropriate. For complete information, see The Gateway Writing Project's Graduate Certificate in Teaching Writing, available from the English Department, from the Division of Teaching and Learning, and from the GWP Director via Continuing Education & Outreach.

**Special Education (Spc Ed)**

**Undergraduate Studies**

**Bachelor of Science in Education: Special Education**

General education requirements (46 hours required):
Students entering college first time, Fall 2002 should refer to the Introductory section of this bulletin for their General Education Requirements.

**English and Communication (9 hours)**
- English 10(1100) Composition
- Communication 30(1030) or Communication 40(1040)
- English 210(3100)

**Mathematics (3 hours)**
- Mathematics 50(1150), Structure of Mathematical Systems I

**Science (8-9 hours)**
- Biology (Laboratory)
- Physical Science (Laboratory)

**Humanities (8 hours)**
- Music 177(3770), Introduction to Music for the
  - Elementary School Teacher (Recommended) plus
    two courses from art, music, philosophy, or literature

**Social Science (18 hours)**
- Psych 3(1003), General Psychology
- History 3, American Civilization, or
- History 4(1002), American Civilization
- PolSci 11(1100), Introduction to American
- Microeconomics for the School

**Curriculum**
- Sociology 10(1010), Introduction to Sociology, or
  - any Anthropology course
- Geography 10(1001) or 102(1002)

**Related Area Requirements (6 hours)**
- Phy Ed 130(3430), Elements of Health Education
- Phy Ed 261(3261), Physical Activity of the
  - Exceptional Learner
Program Requirements (24 hours)

Level I: Exploring Education as a Profession

Tch Ed 210(2210), Introduction to Teaching
Tch Ed 211(2211), Introduction to Schools
Tch Ed 212(2212), Introduction to Learners

Level II: Analyzing the Nature and Process of Education

Tch Ed 310(3310), Introduction to Instructional Methods
Tch Ed 312(3312), Psychology of Teaching and Learning
Tch Ed 313(3313), Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 315(3315), Literacy Learning and Instruction
Ed Rem 321(3721), Interpretation of Educational Tests and Measurements
Cns Ed 331(3220), Counseling Individuals with Special Needs
Spc Ed 315(4315), Speech and Language Problems of Exceptional Children
Spc Ed 342(4342), Career Education for the Special Needs Individual
Spc Ed 345(3345), Introduction to Mild/Moderate Disabilities

Level III: Synthesizing Theory and Practice in Education

Ele Ed 246(4246), Teaching Mathematics in the Elementary School
Ele Ed 330(3330), Children's Literature and Reading
Ele Ed 336(3336), Teaching Language Arts and Reading, N-9
Ele Ed 342(4342), Teaching Remedial Mathematics
Spc Ed 320(4320), Behavior Management
Ele Ed 389(3389), The Analysis and Correction of Reading
Ele Ed 341(4341), Teaching Science in the Elementary School
Ele Ed 253(4253), Teaching Social Studies in the Elementary School
Must take one or more of following three courses (depending on certification area desired):
Spc Ed 347(3347), Teaching Learners with Learning Disabilities
Spc Ed 350(3350), Teaching Learners with Emotional-Behavioral Disorders
Spc Ed 332(3332), Educating Learners with Developmental Disabilities, Physical or Other Health Impairments

Internship hours are met through special methods courses in Level 3.

Student Teaching
Ele Ed 290(3290), Student Teaching in Elementary Education
Ele Ed 291(3291), Student Teaching in Special Education

Note: Ele Ed 290(3290) and Spc Ed 291(3291) must be taken during the same semester.

Attention education majors: Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C-.

Total: Minimum of 120 hours

Graduate Studies

Master of Education: Special Education

Graduate students should understand that completion of the M.Ed. program in special education does not assure teaching certification. Students seeking the degree and certification should consult with their advisers.

Following is the recommended curriculum for students enrolled in the learning disabilities, mental retardation, behavioral disorders, or early childhood-special education options.

Areas of specialization Students are required to complete 9-18 hours from the following areas:

Knowledge base (3-6 hours) (Spc Ed)
497(6497), Problems
443(6443), Introduction to Learning Disabilities
450(6450), Introduction to Emotional Behavioral Disorders
462(6462), Introduction to Early Childhood-Special Education
430(6430), Introduction to Developmental Disabilities

Curriculum (3-6 hours) (Spc Ed)
415(6415), The Secondary School Curriculum
416(6416), Curriculum Construction for Secondary Schools
Ele Ed 410(6410), Current Research in the Elementary School Curriculum
413(6413), Organizational Foundations for Special Education
421(6421), Prescriptive Teaching of Exceptional Children
431(6431), Education of the Learners with Developmental Disabilities
444(6444), Education of Learners with Learning Disabilities
452(6452), Education of Learners with Emotional Behavioral Disorders

Educational Research and Evaluation Methods (3-6 hours) (Ed Rem)
330(3720), Educational Statistics
College of Education  
Division of Teaching and Learning

420(6707), Classroom Measurement and Evaluation  
421(6714), Educational and Psychological Measurement  
422(6716), Individual Assessment of Cognitive Abilities

Psychological foundations and human development  
(3-6 hours) (Ed Psy)  
411(6111), Psychology of Education  
417(6220), Psychology of the Elementary School Child  
418(6225), The Psychology of Adolescence  
412(6310), Psychology of Exceptional Children.

Electives may be chosen from the courses listed here and from other courses with approval of the adviser and department chairperson.

Career Outlook

The employment outlook for special education teachers continues to be favorable, especially in certain positions. In addition to special classroom teaching, graduates of the area have been employed as resource-room teachers, clinical diagnostic personnel, itinerant teachers, educational resource teachers, consultants, educational therapists, and sheltered workshop evaluators, and in various supervisory and administrative positions in agencies and schools.

In combination with counseling, educational psychology, physical education, or other areas, careers can be planned in such occupations as vocational evaluator, counselor for special-needs individuals, and special physical educators.
Course Descriptions

Courses in this section are grouped as follows: Early Childhood Education (Ech Ed), Educational Technology (Ed Tec), Elementary Education (Ele Ed), Physical Education (Phy Ed), Secondary Education (Sec Ed), and Special Education (Spc Ed), and Teacher Education (TchEd).

Prerequisites may be waived by consent of the department.

Early Childhood Education (Ech Ed)

290(3290) Student Teaching in Early Childhood Education I (6)
Prerequisites: Ed Fnd 111(111), Psychology 270(2270), Ech Ed 312(3312), Ech Ed 333, Ele Ed 385, Ele Ed 336(3336), Communication 40(1040), English 210(3100), Ed Psy 312(3312), Ele Ed 330(3330), Ele Ed 389(3389), Ech Ed 314(3314); and admission to student teaching. Must be taken with Ech Ed 291(3291), and must immediately precede Ech Ed 291(3291) in the semester. Clinical teaching experience in early childhood education classrooms in the schools under university and school supervision. Required for all majors in early childhood education.

291(3291) Student Teaching in Early Childhood Education II (6)
Prerequisite: Ech Ed 290(3290). Must be taken concurrently with Ech Ed 205 and must follow Ech Ed 290(3291) in the semester. Clinical teaching experience in early childhood education classrooms in the schools under university and school supervision. Assignments will be in different school districts, buildings serving families of different socio-economic and cultural backgrounds, and at different age/grade levels from those of the Ech Ed 290(3290) assignments. Required of all majors in early childhood education.

303(3303) Curriculum and Practice Laboratory: Infant/Toddler (1)
Classroom experience in infant or toddler classrooms under direction of university personnel. Must be taken concurrently with Ech Ed 313(3313), Curriculum and Practice: Infant/Toddler.

304(3304) Curriculum and Practice Laboratory: Preschool (1)
Classroom experience in preschool classrooms under direction of university personnel. Must be taken concurrently with Ech Ed 314, Curriculum and Practice: Preschool.

305(3305) Curriculum and Practice Laboratory: Primary (1)
Classroom experience in primary classrooms under direction of university personnel. Must be taken concurrently with Ech Ed 315(4315), Curriculum and Practice: Primary.

312(3312) Introduction to Early Childhood Education (3)
Prerequisites: Ed Fnd 111(111) and Ed Psy 312(3312). Study of basic principles underlying good schools for young children. Students will use theoretical base as well as on-site observations to develop an awareness of teaching-learning strategies appropriate for the developmental needs of children from birth through age eight. Scheduling, classroom arrangement, and child management practices will be considered. Throughout the course, students will be expected to begin developing their own philosophy of early childhood education.

313(3313) Curriculum and Practice: Infant/Toddler (2)
Prerequisite: Ech Ed 312(3312). Focuses on planning integrated curriculum for child from birth to 30 months. Includes working with parents and community resources. Lab required.

314(3314) Curriculum and Practice: Preschool Education (2)
Prerequisite: Ech Ed 312(3312). Focuses on planning integrated curriculum for the preschool classroom with emphasis on science, social studies, creative activities and technology. Working with parents and parent education emphasized. Lab required.

315(4315) Curriculum and Practice: Primary Education (2)
Prerequisite: Ech Ed 312(3312). Focuses on planning integrated curriculum for the primary classroom with emphasis on science, social studies, creative activities and technology. Working with parents and parent education emphasized. Lab required.

317(4317) Assessing Individual Needs for Early Childhood Instruction (3)
Prerequisites: Ech Ed 312(3312). Techniques of observing children and using assessment instruments to plan an individualized program for early childhood. Practicum experience required.

321(4321) Parent and Community Resources in Early Childhood Education (3)
Prerequisite: Admission to the College of Education or graduate status. Competencies for working with parents and community agencies will be developed through a study of community and community resources. Procedures for parent participation and use of service agencies in the education of all young children, including those with special needs, will be examined.
331(4331) Language Acquisition and Development in Early Childhood (3)
Prerequisite: Ed Psy 312(3312). Development of language and the effects of environmental and cultural factors on the acquisition process. Identification of language problems for purpose of referral. Includes preschool classroom practices to support language development. Practicum experiences included.

332(3332) Early Literacy (3)
Prerequisites: Ech Ed 312(3312) and Ech Ed 331(4331). Study of children as they construct literacy knowledge from birth to early elementary. Development of meaningful and developmentally appropriate activities in which reading and writing are used to support children's skills. Criteria for choosing and assessing literature as a vehicle for literacy for children from birth to eight will be addressed.

335 Inclusion Practices In The Early Childhood Classroom (3)
Prerequisites: Tch Ed 210(2210), 211(2211), and 212(2212), or consent of instructor. This course provides theory and practice in the inclusion of young children with disabilities in a classroom setting. The focus of the course will be developing a team approach to supporting families as they make decisions for their children. Students will study development, observations, and assessment to be able to make appropriate referrals to support children with disabilities in the early childhood classroom. Other areas of understanding will include legal rights and responsibilities, development of individual plans for success, understanding of best practices for inclusion, and accessing community resources for families of children with disabilities.

346(4346) The Acquisition of Mathematical Concepts (3)
Prerequisites: Formal admission to the Teacher Education Program, Ed Psy 312(3312), and Math 50(1050). Applications of the major theorists to mathematics reasoning. Content is appropriate for pre-k to third graders. Research and its implications for practice in the areas of logical thinking, pre-number ideas, geometry, topology, problem solving and arithmetical operations are considered.

412(6412) Foundations of Early Childhood Education (3)
Prerequisite: A course in child psychology or equivalent. A study of the various types of early childhood programs and philosophical ideas they are based. Attention will also be directed to the implementation of such programs, problems of parent involvement, and the social environment of the children.

413(6413) The Educational Role of Play (3)
Prerequisite: Ech Ed 312(3312) or equivalent. Emphasizes play as a constructive process with applications to cognitive and social development. Special attention to facilitating play in early childhood classrooms.

415(6415) Organization and Development of Early Childhood Programs (3)
Prerequisites: Ech Ed 312(3312) or equivalent. Strategies for the effective organization and development of programs for children from diverse cultures, ages birth through eight years, will be studied. Research and theory in funding and budgeting, staffing and professional development, selection, development, and assessment of program curriculum will be emphasized. Long-range planning for program stability and involvement in advocacy issues will be covered.

490(6490) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems (1-10)
Prerequisite: Graduate standing. Individual study on topics pertaining to early childhood education.

Educational Foundations (Ed Fund)

330(4330) History of American Education (3)
Prerequisite: A course in American history or consent of instructor. An overview of the evolutionary development of American educational theory and practice from the early colonial period to the present. Attention is also given to selected issues in professional education.

421(6421) Philosophy of Education (3)
Prerequisites: Graduate standing or consent of instructor. (Same as Philosophy 473) Critical examination of selected issues in education from the perspective of Western philosophy. Topics may include the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the role of public educational institutions.

422(6422) Analysis of Educational Issues (3)
Prerequisite: A course in philosophy of education or a course in history of education, or consent of instructor. A critical examination of issues about the elementary and secondary schools. This is done through the analysis of the procedures, resources, and goals that guide school policies and practices.
History of Western Education (3)
A course designed to survey the educational development of Western civilization from approximately the eighth century BC until the present. Salient educational theory and practice will be considered in their appropriate social context.

Educational Technology (Ed Tec)

Audiovisual Equipment Operation for Classroom Teachers (1)
An entry-level course for all teacher education students. May be taken concurrently with Ed Tec 246(2246). A self-paced, modularized, and criterion referenced course. Students will demonstrate competence in operating standard audiovisual equipment normally found in the schools.

Preparation of Inexpensive Materials for the Classroom (1)
An entry-level course for teacher education students. May be taken concurrently with Ed Tec 245(2245). A lecture-demonstration laboratory course in material preparation for classroom use.

Integration of Media and Materials in Instructional Planning (1)
Prerequisites: Ed Tec 246(2246), and for secondary Education students, Sec Ed 213(3213). Course concentrates on the integration of media and materials in lesson planning. Through lecture, demonstration, and individualized instruction, the student designs an instructional unit and prepares appropriate material for that unit. Ed Tec 246(2246) must be taken prior to, or concurrently with, this course.

Utilization of Computer-Based Materials in Instruction (1)
Utilizing a series of computer-based education modules, the instructional uses of the computer are explained and demonstrated. Students develop practical experience in using and evaluating computer materials for classroom use.

Introduction to Computers and the Internet in Education (3)
The course focuses on how computers and the Internet have changed teaching and learning; how teachers can facilitate learning in inquire-based, technology-rich classrooms; and on the design and implementation of technology-rich activities and projects. Introduces students to the networked computer as an instructional tool. Course participants will be introduced to how teachers and their students can use computer tools in appropriate ways for different content areas and educational levels. Practices to be explored include making presentations; searching for information and educational resources; organizing, writing, and displaying information and data.

Selection and Utilization of Educational Multimedia (3)
Prerequisites: Ed Tec 301 or consent of instructor. Prepares students for selecting and utilizing multimedia technologies for learning. Students will conduct projects involving educational multimedia programs available on computers or over telecommunications networks. The projects will incorporate graphics, sound, and video. The goal of working on these projects is to prepare students to facilitate others' use of multimedia in classrooms and other educational contexts.

Preparation of Graphic Materials for Audiovisual Education (3)
Prerequisite: Ed Tec 340(5340) or consent of instructor. Not open to lower-division students. A lecture-demonstration-laboratory course that emphasizes the graphic arts component of audiovisual material production. Theories of learning and communication are used in the design and production of materials used for classroom settings.

Instructional Television (3)
Prerequisite: Ed Tec 340(5340) or consent of instructor. Not open to lower-division students. A lecture-demonstration-laboratory course designed to concentrate on the use of instructional television in formal and informal learning situations. Basic script writing, management of ITV systems, and design and production of low-budget programs will be emphasized.

Seminar in educational technology addressing special issues and topics not normally included in the regular educational technology courses.

Computer-Based Graphics and Text Design and Production (3)
Prerequisite: Education 301(4301) or permission of the instructor. A lecture-demonstration-laboratory course that emphasizes the theoretical and practical design of graphic and textual material through the use of computer-based graphics programs. Emphasis will be placed on the utilization of commercial software to produce graphic designs and desktop publishing projects such as newsletters, workbooks, and other textual materials.

Applications of Computers in Education (3)
Prerequisite: Educ 301(4301) or permission of instructor. Uses and capabilities of computers in the teaching, administration, and counseling areas of Education. Familiarization with computing facilities and package programs.
415(6415) Teaching and Learning with Technology: Authoring Tools (3)
Prerequisite: EdTec 340(5340) or consent of instructor. A practical course in the design and development of computer-based educational materials and activities, utilizing "authoring" software tools. Authoring tools allow the development of interactive multimedia educational modules without the need for command-line programming. Emphasis will be placed on principled, theoretically sound, learner-centered design that meets curriculum needs.

416 Teaching and Learning with Technology: Data Representational Tools (3)
Prerequisites: Ed Tec 340(5340) or consent of instructor. Examines the use of representations of different forms of data with technology for teaching and learning. Students will learn about techniques for graphing and visualizing data in science, math, the social sciences, and humanities, and will become familiar with research and practice pertaining to their use in a variety of learning activities and projects.

433(6433) Educational Technology Systems Management (3)
Prerequisite: Ed Tec 340(5340). Basic principles of management in design and operation of media programs and systems in various educational settings. Emphasis on strategies and alternative structures for achieving and evaluating functions of media centers.

435(6435) Instructional Technology and Education Reform (3)
Prerequisite: Ed Tec 340(5340) or consent of instructor. Students will learn how to foster changes in uses of technology for learning in schools, based on a historical understanding of previous technology reforms, and a critical assessment of recent reforms. Questions addressed include: What did stakeholders predict and hope for with earlier educational technologies, early uses of the computer and networking, and present technological innovations? What actually happened? Why? How can teachers and other educators help foster and spread effective use of technology for learning?

436 Computer-Mediated Communication in Education (3)
Prerequisite: Ed Tec 340(5340) or consent of instructor. Explores the theory, research, and practice of using computer-mediated communication and computer-supported collaborative learning in education. Learning environments including elementary, secondary, higher, and adult education will be considered.

437 Distance Learning via Networks and Telecommunications (3)
Prerequisite: Graduate standing. This course is an investigation in the ways the learning and teaching across the barriers of time and distance are similar to and different from face to face learning and teaching. Students will study the influence of interactive media: Videoconferencing, asynchronous discussions and other commonly used methods.

446(6446) Advanced Instructional Television Production (3) Prerequisite: Ed Tec 340(5340) and Ed Tec 346(5346). Advanced management, script writing, and production of ITV programs. Laboratory activities in production of systematically designed instruction. Each student will produce ITV programs involving writing, production of graphics, directing, editing, and validating the programs.

448 Technology-Supported Inquiry Learning (3)
Prerequisites: Ed Tec 340(5340) and Ed Psych 412(6310), or consent of instructor. Educational technology such as networked computers and software can play a supportive role in inquiry-based learning. Students will explore the theoretical background, design issues, and pragmatic realities of technology-supported inquiry learning environments. Such learning environments are best understood as systems involving social, cultural, material and psychological aspects. Consideration will be given to the important properties of settings, activities and technologies, as well as to the role of instructors.

452(6452) Educational Multimedia Design (3)
Prerequisite: Ed Tec 340(5340) or consent of instructor. Examines principles and techniques for design of visually and functionally effective multimedia educational resources. Emphasis on techniques for computer-based production of materials incorporating text, graphics, and video. Rapid prototyping and evaluation techniques incorporated.

454 Instructional Video Production (3)
Prerequisites: Ed Tec 340(5340) or consent of instructor. Elements of digital video production will be studied and used to produce video for a variety of formats. Students will develop the skill to produce and stream school news programs, video annuals, documentaries and staff development programs.

460 Technology Coordination in Schools (3)
Prerequisite: Ed Tec 340(5340) & 444 & 448 or consent of instructor. This course provides theoretical and practical knowledge for implementing technology in schools. A major focus will be placed on analyzing the total cost of implementations and methods for measuring educational success.

490(6490) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.
Elementary Education (Ele Ed)

82(1082) Effective Reading and Study Skills (2)
Designed to increase reading rate and comprehension and to develop study techniques appropriate to the purpose and difficulty of materials. Use is made of mechanical pacer, comprehension tests, vocabulary materials, and lecture demonstrations. No credit toward a degree.

177(2177) Elementary School Music (2)
Prerequisite: Consent of department. The role of the classroom teacher in the development of the elementary school general music program; selection of music, demonstration and practice of methods, and study of resources. This course will not apply toward requirements for a music major.

192(2192) Educational Laboratory/Field Experience (1-3)
A laboratory/field experience requiring systematic observation and/or participation in appropriate educational settings. To precede student teaching. May be repeated to maximum of three hours.

246(4246) Teaching Mathematics in the Elementary School (3)
Prerequisites: Ed Fnd 111(1111), junior standing, and completion of mathematics requirements in general education. Organization and implementation of a modern elementary school mathematics program. A field experience involving several visits to local elementary schools is a required assignment of the course.

253(4253) Teaching of Social Studies in the Elementary School (3)
Prerequisites: Ed Fnd 111(1111), junior standing, and completion of social science requirements in general education. Study of elementary school social studies emphasizing the current social studies curricular content, methods of teaching, and instructional materials. Analysis of forces affecting objectives, materials, and teaching techniques.

277(3277) Curriculum and Methods of Teaching Elementary School Music (3)
(Same as Music Education 257(3570).) Prerequisites: Music 131(2311) and Ed Fnd 111(1111). For the music Education major. A study of the elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources. This course must be completed in residence.

290(3290) Elementary School Student Teaching I (6)
Prerequisites: TchEd 210(2210), 211(2211), 212(2212), 310(3310), 312(3312), 313(3313), and 315(3315) Ele Ed 230, 246(4246), 253(4253), 336(3336), 341(3431), 385, 389(3389), Psy 3(1003), Comm 40(1040), Eng 210(3100) and admission to student teaching. Must be taken with Ele Ed 291 and must immediately precede Ele Ed 291 in the same semester. Clinical teaching experience in elementary school classrooms under university and school supervision. Required for all majors in elementary education.

291(3291) Elementary School Student Teaching II (6)
Prerequisite: Ele Ed 290(3291). Must be taken "in block" with Ele Ed 205 and Ele Ed 290(3290), and must immediately follow Ele Ed 290(3290) in the semester. Clinical teaching experiences in elementary school classrooms under university and school supervision. Required for all majors in elementary education.

310(4310) Elementary School Curriculum (3)
Prerequisites: Ed Fnd 111(1111) and junior standing. Study of modern education with regard to objectives, content, and methods in elementary school curriculum.

316(4316) Middle Level Curriculum and Instruction (3)
Prerequisites: Sec Ed 315(4315). Preparation for teaching and learning in a middle school, grades 5B9. Content focuses on curriculum development, methods, techniques, materials, planning, organization, and assessment in middle level education for early adolescents.

317(4317) The Middle-Level Child (3)
Prerequisite: Sec Ed 315(4315) and Ed Psy 312(3312). Developmental characteristics and needs of early adolescents are studied through field experience in middle school classrooms. The relationship between needs and behavior is explored and skills for effective student teacher relationship are highlighted.

330(3330) Children's Literature and Reading (3)
Prerequisite: Junior standing. A course designed to provide a knowledge of the various types of literature for young people, including books, magazines, comics, television, and films; criteria for evaluating and selecting material; uses of material in the classroom and home; and motivating reading for enjoyment and information, bibliotherapy, and communication.
336(3336) Teaching Language Arts and Reading N-9 (3)
Prerequisites: Six hours of English/Communication; Ed Psy 312(3312). Involves study of methods and materials for implementing a total language arts program, including reading in the elementary school. Emphasis is placed on using the language experience approach in teaching listening, reading, spelling, handwriting, grammar, and spoken or written composition as basic skills.

341(4341) Teaching Science in the Elementary School (3)
Prerequisites: Completion of science requirements in general education, Ed Fnd 111(1111), and upper-level standing. An analysis of teaching science to elementary school children with emphasis on current science education trends, science curricular materials, and strategies of instruction.

342(4342) Teaching Remedial Mathematics (3)
Prerequisite: Ele Ed 246(4246). Methods for diagnosing and remediating mathematical skills and concepts of the special needs learner. Course requires testing and tutoring assignments in area school districts outside of scheduled university class time.

346(4346) Advanced Methods in Elementary School Mathematics (3)
Prerequisites: Ele Ed 246(4246) and consent of instructor. Review, evaluate, develop, and provide classroom trial of instructional components prepared for teaching mathematics. Course will develop greater depth of preparation in: elementary program content; programs for exceptional children; and curricular extensions such as transformational geometry, rational numbers, and intuitive algebra.

387(4387) Language and Literacy Needs of Culturally and Linguistically Diverse Children (3)
Prerequisites: Ed Psy 312(3312) and Reading Methods or equivalent. Analysis of the community and cultural influences on children's language and literacy development, particularly children from culturally diverse settings. Attention to the sociolinguistic and constructivist practices in the teaching of language and literacy. Study of strategies to focus on the efforts of school administrators, faculty, parents, students, and the community on developing language and literacy competence as a primary tool for supporting academic achievement.

389(3389) The Analysis and Correction of Reading Problems in the Classroom (3)
Prerequisites: Ele Ed 385 or Sec Ed 386(4391), or equivalent. Study of causes of reading difficulties and procedures that may be used to analyze and correct them in the group setting. Ten hours of diagnostic tutoring is required.

390(3390) Elementary School Student Teaching III (6)
Prerequisites: Ele Ed 291(3291) or equivalent and admission to student teaching. Clinical teaching experience in elementary school classrooms under university and school supervision with seminar included. For students who wish an additional student teaching experience.

405(4405) Seminar (1-10)

410(6410) Current Research in Early Childhood and Elementary Program (3)
Prerequisite: Graduate admission. A systematic examination of research related to early childhood and elementary school programs. Students will be expected to become effective consumers of educational research and to utilize appropriate research findings in their decision-making processes when planning instruction. This course should be taken as the first course in the M.Ed. in Elementary Education degree program.

411(6411) Curricular Issues in Early Childhood and Elementary Programs (3)
Prerequisite: Ele Ed 410(6410). Selected contemporary problems that affect classroom decisions. Technology, literacy, meeting individual needs, diversity, and dealing with discipline are studied through investigative discussions, reading, and a research paper.

412(6412) Microcomputers in Elementary Education (3) Focuses on principles and procedures for using microcomputers for instructional and classroom management activities in the elementary classroom.

422(6422) Curriculum Construction in Early Childhood and Elementary Programs (3)
Prerequisite: Ele Ed 410(6410) and 411(6411). A study of current and classic curricular models early childhood and elementary education. Using developmental learning theory, students will select appropriate curriculum and develop activities for the early childhood or elementary classroom. Students begin a research project by gathering data and evaluating curricular designs from the models studied.

423(6423) Curricular Implementation in the Early Childhood and Elementary Programs (3)
Prerequisite: Ele Ed 422(6422). Implementation of a culminating project designed in Ele Ed 422(6422). Students will study implementation and evaluation strategies for the project. The project will be implemented during the semester and students will conduct an evaluation of the project by the end of the semester.

425(6425) Elementary School Supervision (3)
Organized to study such problems in field of supervision as will meet needs of superintendents, principals, and special supervisors.
426 Elementary School Curriculum Reform in the Earth/Space Sciences (4)  
Prerequisite: Graduate standing. Field-based experiences in improving the district-level elementary school science program, with special attention to the earth/space sciences. Emphasis is given to planning and implementing standards-based inquiry science activities that include connections to other curricular areas.

427(6427) Supervision of Clinical Experiences in Teacher Education (3)  
Prerequisite: Teaching experience and consent of instructor. A consideration of the clinical phase of the teacher Education program, with special emphasis on student teaching. Examination of role responsibilities and supervisory practices. Study of professional literature for research findings, theoretical formulation, and recent developments in the field.

428 Elementary School Curriculum Reform in the Life Sciences (4)  
Prerequisite: Graduate standing. Field-based experiences in improving the district-level elementary school science program, with special attention to the life sciences. Emphasis is given to planning and implementing standards-based inquiry science activities that include connections to other curricular areas.

429 Elementary School Curriculum Reform in the Physical Sciences (4)  
Prerequisites: Graduate standing. Field-based experiences in improving the district-level elementary school science program, with special attention to the physical sciences. Emphasis is given to planning and implementing standards-based inquiry science activities that include connections to other curricular areas.

430(6430) Problems of Teaching the Language Arts (3)  
Procedures used in teaching integrated language arts in elementary schools.

432(6432) Problems and Research in Elementary School Language Arts (3)  
Prerequisites: Ele Ed 430(6430), Ed Rem 431(6710), and six hours of English. A systematic study of research in teaching speaking, listening, written composition, handwriting, spelling, and linguistics as it focuses on the problems of teaching these skills in the elementary school. Attention is given to innovations in the field.

436(6436) Children's Literature I: Survey and Analysis (3)  
Prerequisite: Ele Ed 330(3330) or equivalent. A survey of children's literature published in the last ten years. Special emphasis will be placed on the relationship between children's literature and contemporary issues of society. Students will experience the materials themselves rather than reading about books. In addition, students will begin to study the literary elements that make literature interesting and meaningful for children.

437(6437) Children's Literature II: Selection and Functions (3)  
Prerequisite: Ele Ed 330(3330) or equivalent. A study of literary elements that make literature interesting and meaningful for children will be completed. Further emphasis will focus on the application of trade books for children as resources in school curriculum planning. Children's Literature II may be taken either before or after Children's Literature I.

441(6441) Problems and Research in Teaching Elementary School Science (3)  
Prerequisites: Eight hours of science, Ele Ed 341(4341), and Ed Psy 411(6111). A thorough examination of research related to elementary school science instruction with particular emphasis on innovative programs. Includes methods of investigation and techniques for interpreting the professional literature.

442 Elementary School Curriculum Reform in the Health Sciences (4)  
Prerequisites: Graduate Standing. Field-base experiences in improving the district-level elementary school science program, with special attention to the health sciences. Emphasis is given to planning standards-based inquiry science activities that include connections to other curricular areas.

443(6443) Teaching Physical Science in the Elementary School (3)  
Activity-oriented experiences with basic physical science concepts, laboratory skills, and techniques that are appropriate for elementary school teachers. The physical science concepts in elementary school curricula will be analyzed in depth.

444(6444) Environmental Studies for Elementary Teachers (3)  
Activity-oriented training in developing environmental awareness, field and/or laboratory skills and techniques, and the use of elementary environmental curricula. Materials and activities appropriate for one's students and locale will be developed.

445(6455) Problems of Teaching Mathematics in the Elementary School (3)  
A study of the mathematics program in the elementary school from the viewpoint of goals, content, techniques, and evaluation.
446(6446) Curriculum and Methods of Teaching Measurement in Mathematics: Metric and Standard Systems (3)
Prerequisite: Ele Ed 346(4346) or Ele Ed 246(4246).
Curricular development and implementation on reflecting recent research findings. Content, materials, methods of teaching the general topic: measurement. Applications in both the metric and standard systems.

447(6447) Problems and Research in Teaching Elementary School Mathematics (3)
Prerequisite: Ele Ed 445(6445). A thorough examination of research related to recurrent problems in elementary school mathematics instruction, as well as current problems arising within modern programs. Includes methodology appropriate to investigation of such problems and techniques for assessment of the literature.

448(6448) Diagnosis and Remediation of Disabilities in Learning Mathematics (3)

450(6450) Problems of Teaching Social Studies in the Elementary School (3)
A classroom-oriented study of curricular and instructional problems encountered in social studies. Emphasis is placed upon development of materials, techniques, and resources.

452(6452) Problems and Research in Teaching Elementary School Social Studies (3)
Prerequisite: Ele Ed 450. An advanced study of pedagogical problems germane to social studies education with particular emphasis on application of research findings to the solution of classroom problems.

482(6482) Problems and Research in Teaching Elementary School Reading (3)
Prerequisite: Ele Ed 385 or equivalent. Systematic study of research as it focuses on the problems of teaching reading in the elementary school. Attention is given to innovations in the field.

484(6484) Developmental Reading (K-13) (3)
Prerequisite: Ele Ed 385 or Sec Ed 386(4391) or equivalent. Designed to update classroom teachers' skills in reading instruction. Study of basic reading instruction at all grade levels with special emphasis on current instruction programs, innovative approaches to reading instruction, basic techniques, commercial reading materials, and recent research findings which have a bearing on methodology.

485 Secondary School Curriculum Reform in the Physical Sciences (4)
Prerequisites: Field-based experiences in improving the district-level K-12 school science program, with special attention to the physical sciences. Emphasis is given to planning and implementing standards-based secondary school physical science activities that build on the district K-6 school science program.

486(6486) Clinical Diagnosis and Treatment of Reading Disabilities (3)
Prerequisites: A graduate course in reading and in measurement or statistics. Etiology of specific reading disability; procedures that are used to diagnose and treat in the clinical setting.

488(6488) Supervision of School Reading Programs (3)
Prerequisite: Ele Ed 385 or Sec Ed 386(4391). Processes and techniques of developing, evaluating, and/or modifying the reading program in a school or district. The course would enable those seeking positions as consultants, coordinators, and directors of reading to conform with standards specified by the International Reading Association.

490(6490) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

493(6493) Clinical Methods in Child Study I (3)
Prerequisites: Ele Ed 486(6486) and Ed Rem 422(6716). Clinical experience in diagnosing learning problems, especially reading disability, in school children.

494(6494) Clinical Methods in Child Study II (3)
Prerequisite: Ele Ed 493(6493). Clinical experience in applying remedial procedures to schoolchildren with learning problems, especially reading disability.

495(6495) Supervision of Practicum in Clinical Reading (3)
Prerequisites: Ele Ed 385 or Sec Ed 385; Ele Ed 486(6486), Ele Ed 493(6493), Ele Ed 494(6494), and Ed Rem 422(6716). Supervising graduate students in diagnosis and remedial process within the reading clinic.

497(6497) Problems (1-10)
Selected problems to meet the needs of individual students.

Physical Education (Phy Ed)
Prerequisites may be waived by consent of the department or the instructor.

124(1124) Principles and Practice in First Aid and Cardiopulmonary Resuscitation (1)
The course provides theory and supervised practice in first aid and cardiopulmonary resuscitation leading to American Red Cross certification in those areas.
130(3430) Teaching Health in the Elementary School (3)
Prerequisites: Ed Fnd 111(1111) and admission to the College of Education. A study of health programs in the elementary school. Emphasis is given to the teacher’s responsibilities in the areas of health services, healthful school environment, and instruction in a comprehensive school health program.

132(2132) Personal Health (3)
A study of factors that contribute to physical and mental well-being at all stages of the life cycle. Particular attention will be given to the identification and analysis of individual health behaviors.

134(2134) Personal Physical Fitness (3)
A study of the relationship between vigorous physical activity and individual well-being. Emphasis will be placed on an individualized analysis of health fitness, resulting in a prescribed program to develop optimal levels of physical fitness, including aerobic fitness, strength, muscular endurance, flexibility, body composition, and lifetime sports considerations.

165(3465) Physical Education Activities in the Elementary School (3)
Objectives of physical education for the elementary school child with applications of choice of activities, organization of program, theory, and practices.

190(1190) Clinical Experience in Physical Gerontology (3)
(Same as Gerontology 190(1190).) Early supervised experience in gerontological physical activity programming. Seminar precedes and accompanies clinical experience.

193(1193) Clinical Experience in Youth Sport Programs (3)
Supervised clinical experience in youth sport programs. Seminar precedes and accompanies clinical experience.

204(3204) Special Topics in Physical Education (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, field study, or research.

220(3420) Teaching of Skills: Movement and Rhythms (3)
Prerequisite: Junior Standing and Phy Ed 283(3283). Study of skill analysis and techniques of teaching fundamental movement skills and rhythmical activities. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

221(3421) Teaching of Skills: Dance (3)
Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching dance in school physical education programs. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials. Dance forms studied will be folk, square, ballroom, modern, jazz and creative.

222(3422) Teaching of Skills: Grades PK-4 (4)
Prerequisite: Phy Ed 282(3282) and admission to Teacher Education Program. Study of skill analysis and techniques of teaching developmental games, education gymnastics and perceptual-motor activities. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

223(3423) Teaching of Skills: Grades 5-9 (4)
Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching track and field, outdoor education, soccer, softball, flag football, basketball, and volleyball. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

224(3424) Teaching of Skills: Grades 9-12 (4)
Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching racquet sports, aquatics, bowling, golf, archery and team handball. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

234(3434) Teaching Wellness and Health-Related Fitness (4)
Prerequisite: Phy Ed 280(3280) or the equivalent, or consent of the instructor. Study and techniques of teaching wellness and health-related physical fitness concepts across the life span. Evaluation, interpretation, and application of wellness concepts to the individual and groups.

261(3261) Physical Activity for the Exceptional Learner (2)
Prerequisites: Spc Ed 311(3311) and Spc Ed 313(3313). A study of the special physical activity and exercise needs, interests, and problems of the exceptional learner, with considerable emphasis on the development of methods and competencies in modifying physical activities.
267(3267) Performance Analysis in Physical Education (3)
Prerequisite: College-Level Mathematics. A study of quantitative and qualitative approaches processes and instruments used in assessing student progress in physical education activities. Emphasis will be given to the application of statistical methods to the results of evaluations of human motor performance and the interpretation of those results, as well as to the construction and administration of measurement instruments.

268(3468) Curriculum and Methods of Teaching Physical Education (3)
Prerequisite: Phy Ed 101 or Sec Ed 213(3213). Study of the scope and sequence of the school program in physical education with emphasis on planning processes, content selection, management procedures, instructional strategies, and program assessment.

275(3275) Psychological Aspects of Physical Education (3)
Prerequisites: Psychology 3(1003). A study of the following aspects of psychology as they influence performance in sport and physical activity: learning, retention, transfer, practice, feedback, motivation, anxiety, perception, motor control, social facilitation, cohesion, leadership, and reinforcement.

276(3276) Sociocultural Aspects of Physical Education and Sport (2)
Prerequisite: Junior standing. Study of the theoretical, methodological, experimental, and applied foundations of sport and physical activity programs in society and the schools. Applied issues included cultural, political, economical, legal, and educational aspects of sport and physical activity programs.

277(3277) Historical and Philosophical Foundations of Physical Education and Sport (2)
Prerequisite: Junior Standing. A study of the history of physical education and sport programs, philosophical influences and issues related to the programs and applications of the knowledge base to current programs.

280(3280) Human Anatomy and Physiology (5)
Prerequisite: Bio 1(1012) and 3(1013) or consent of instructor. Study of the basic aspects of human anatomy and physiology and their relationship to concepts in sport and physical activity. Two hours of laboratory per week.

282(3282) Physical Growth and Motor Development (3)
Prerequisite: Psychology 270(2270) or Psychology 271. An examination of the physical growth and aging, and motor development of the human being over the life span. Emphasis on evaluative tools, techniques, and studies of research findings. Laboratory field experience for observing individuals. Attention is directed toward acquisition of basic skills, perceptual-motor development, fitness development, and age-related changes in information processing. A required course for physical education majors; an elective course for early childhood, special, and elementary education majors.

283(3283) Kinesiology (3)
Prerequisite: Phy Ed 280(3280). Study of the biomechanics of human motion with particular application to performance in sport activities.

284(3284) Physiology of Human Exercise (3)
Prerequisite: Phy Ed 280(3280). Study of the physiological effects of human exercise, training, and sport activities upon the human body; understanding and evaluation of physical fitness components, with consideration given also to areas including work, fatigue, nutrition, age, sex, and environment.

285(3285) Sports Medicine (3)
Prerequisite: Phy Ed 280(3280) or equivalent. A study of the prevention and care of athletic/sport participation injuries. Emphasis is given to proper conditioning and training of the sport participant and on emergency responses, including CPR certification.

287 Seminar in Exercise Science (3)
Prerequisites: Phy Ed 283(3283), 284(3284), or 285(3285). A review of current topics in the area of exercise science. Focus is on research and practice in various subdisciplines in the field. An emphasis will be placed on application of research to professional situations. Some field experience may be required.

290(3990) Student Teaching in Physical Education: PK-5 (5)
Prerequisites: Admission to Student Teaching. Clinical teaching experience in physical education settings in the schools under university and school supervision. Required for all majors in physical education receiving certification in physical education, Grades PK-5.

291(3991) Student Teaching in Physical Education 5-9 (5)
Prerequisite: Admission to Student Teaching. Clinical teaching experience in physical education settings in the schools under university and school supervision. Required for all majors in physical education, Grades 5-9.

292(4992) Student Teaching in Physical Education: 9-12 (5)
Prerequisite: Admission to Student Teaching. Clinical teaching experience in physical education settings in the schools under university and school supervision. Required for all majors in physical education receiving certification in physical education, Grades 9-12.
312(5312) Management of Sports Programs (3)
Prerequisite: Consent of instructor. A study of administrative theory, roles, responsibilities, and functions in the management of sports programs.

330(5330) Prescribing Physical Activity (3)
(Same as Gerontology 330(5330). Prerequisite: Phy Ed 280(3280) or consent of instructor. Prescription of physical activity for individualized and group programming based upon physical fitness assessment. Health, nutrition, age, physical fitness, and testing aspects are considered in developing specialized exercise programming based upon current physiological and biomechanical research.

331(5931) Adult Exercise Leadership (3)
Prerequisites: Phy Ed 284 or equivalent. A study of the roles, functions, and skills necessary to become certified as an American College of Sports Medicine Health/Fitness Instructor for adult exercise programs.

340(5240) Community Health Education (3)
Prerequisites: Tch Ed 211(2211) or equivalent, junior or graduate standing, or permission of instructor. Study of community health issues and programs, within the school and the community, including spread and control of communicable diseases. Treatment and prevention programs, community resources, and educational issues for both communicable and chronic diseases will be examined.

348(5248) Teaching Health in the Secondary School: Grades 9-12 (3)
Prerequisites: Tch Ed 211(2211) or equivalent, junior or graduate standing, or permission of instructor. Study of methods of health education in the secondary school. Class will examine instructional program, ways to provide healthful environment in the school, and health services for high school student.

380(5380) Nutrition for Human Performance (3)
A study of human nutrition and its relationship to human performance. Consideration is given to nutrients--function, food source, health concerns and implications, and energy intake and expenditure. Special consideration is given to the following: body composition including weight gain and loss, ergogenic aids, competitive athletes, older adults, children and teens, pregnant women, disease risk, fluid and electrolyte balance, and specific sport activities.

390(5990) Student Teaching in Physical Education III (5) Prerequisites: Phy Ed 291(3991) or equivalent and admission to student teaching. Clinical teaching experience in physical education settings in the school under university and school supervision with seminar included. For students who wish an additional student teaching experience.

392(5992) Internship in Physical Gerontology (1-10)
Prerequisites: Phy Ed 190(1190) or consent of instructor. (Same as Gerontology 392(5992) Supervised clinical experience in selected gerontological settings as a physical education practitioner under the supervision of university and program professionals. Internship may include two or more separate experiences completed concurrently or sequentially and involve planning of instruction, participant and program evaluation, research, and related activities.

462(6462) The Physical Education Curriculum (3)
Prerequisite: Consent of instructor. A study of current practices, problems, trends, and research involved in the analysis and development of the physical education curriculum.

464(6464) Analysis of Teaching in Physical Education (3)
Prerequisite: Consent of instructor. A study of trends and research relating to teaching methodology, teacher effectiveness, and supervision of instruction in physical education. Emphasis will be given to the application of research on teacher effectiveness in the instructional process in physical education.

474(6474) Psychological Dynamics of Sport Performance (3)
Prerequisite: Phy Ed 275(3275) or consent of instructor. Application of specific principles of social psychology to the teaching of physical education and sport and of mental aspects of peak physical performance. Explores the techniques of improving team and individual performance in interscholastic and elite competition through sport psychology. Attention is given to motivation, competitive anxiety, attitude, aggression, team cohesion and leadership, exercise adherence, personality, individual differences, and gender roles as they pertain to sport performance.

475(6475) Motor Learning and Control (3)
Prerequisite: Phy Ed 275(3275) or consent of instructor. Application of specific principles of learning and the control of movement to the teaching of motor skills in physical education and sport. Surveys neurologic systems involved in perception and motor performance. Explores theoretical perspectives, including open versus closed loop control, schema theory, information processing, and dynamical systems theory. Attention is given to efficiency of learning skills by accommodating transfer of training, utilizing feedback, manipulating practice schedules, and promoting retention.

476(6476) Social Inquiry of Sport (3)
Prerequisite: Phy Ed 276(3276) or consent of instructor. A study of basic social processes in sport, such as socialization, social facilitation, and assimilation.
478(6478) Problems and Research in Physical Education (3)
A study of potential research problems and research processes in specific physical education subdisciplines. A research project will be completed in the student's physical education subdiscipline interest area.

482(6482) Life Span Perceptual and Motor Development (3)
Prerequisite: Phy Ed 282(3282) or consent of instructor. A study of sensory and perceptual development and change, and the age-related qualitative and quantitative changes in motor skill. Both current theory and current empirical findings are stressed. Attention is given to methods of structuring learning environments to maximize development. Study is from a life span perspective.

483(6483) Biomechanics of Sport Techniques (3)
Prerequisite: Phy Ed 283(3283) or consent of instructor. A study of the biomechanical concepts important to analysis of techniques used in selected sports. Explores recent research findings on efficient sports techniques. Provides experience in the analysis of skill performance.

484(6484) Physiological Bases of Physical Performance (3)
Prerequisites: Phy Ed 280(3280) and Phy Ed 284(3284) or consent of instructor. Physiological bases and contemporary trends in the study of human performance and exercise stress; will analyze research literature and study experimental strategies with the focus upon application to teaching and coaching.

485(6485) Theory of Exercise and Cardiovascular Disease Risk Factor Management (3)
Prerequisite: Completion of Phy Ed 484(6484) or equivalent. A study of the effects of exercise on the basic epidemiology, physiology, and management of unavoidable and avoidable cardiovascular risk factors. Special attention will be given to the examination of the effect of exercise in the management of cardiovascular disease risk.

490(6990) Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

492(7492) Directed Readings in Curriculum and Instruction (1-6)
Prerequisites: Graduate standing, one graduate course in curriculum and instruction, and consent of instructor. Independent study into the current research, literature, and issues in the areas of physical education and curriculum and instruction.

494(7494) Directed Readings in Motor Behavior (1-6)
Prerequisites: Graduate standing, one graduate course in motor behavior, and consent of instructor. Independent study into the current research, literature, and issues in the area of motor behavior.

497(6497) Problems (1-10)
Prerequisite: Consent of instructor. Selected problems to meet the needs of individual students.

Secondary Education (Sec Ed)

162(2162) Computer Keyboarding and Formatting (3)
Prerequisite: Intermediate typewriting or equivalent. Review of keyboarding techniques and skills; development of speed and accuracy; instruction in the preparation of business and professional papers and forms with emphasis on formatting and information processing skills.

204(3204) Seminar: Business Education Student Teaching (1)
Prerequisites: Completion of all required courses in major and/or certification emphasis area. To be taken concurrently with student teaching. Application of theory, methods, and techniques to the teaching of business subjects in grades 7-12.

208(3208) Mathematics Teaching Intern Seminar (1)
Prerequisite: Concurrent enrollment in Sec Ed 290(3290). A seminar in the integration of mathematics curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec Ed 290.

209(3209) American Government for the Secondary Classroom (3)
Same as POL SCI 209(3090). Prerequisites: Sec Ed 213(3213) and POL SCI 11(1100), graduate standing or consent of instructor. Adapts the themes and subject matter of American government to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American government, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either History/Sec Ed 257(3257) or 258(3258) or Political Science/Sec. Ed. 209(3209) must be taken the same semester as History/Sec Ed 255(3255) except with special consent of the Social Studies Coordinator. Can be counted towards the Political Science major requirement, but not the American Politics subgroup. Counts towards Social Studies Certification.
232(3600) The Curriculum and Methods of Teaching English (3)
Prerequisites: Completion of Level II courses and a near major in the subject area. (Same as Eng 262(3600)). A study of the scope sequence of the English course in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Includes field experiences. The course prepares students for reflective teaching by relating course reading to field experiences and theory to practice. To be taken prior to student teaching and concurrently with Sec. Ed 290(3290), Internship. This course must be completed in residence.

240(3240) Curriculum and Methods of Teaching Physical Sciences (3)
(Same as Chemistry 280(4802) and Physics 280.) Prerequisite: Sec Ed 213(3213) and a near major in the subject matter. A study of the scope sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

246(3246) The Curriculum and Methods of Teaching Mathematics (3)
Prerequisites: Sec Ed 213(3213) and a near major in the subject matter. A study of the scope sequence of the mathematics courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of mathematics. To be taken prior to student teaching. This course must be completed in residence.

255(3255) The Curriculum and Methods of Teaching History and Social Studies (3)
(Same as History 255(3255).) Prerequisite: Junior standing and Sec Ed 213(3213). A study of the scope sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is directed also toward learning the techniques and research tools of the scholar in the fields of history and social studies. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence.

256(3256) Social Studies Teaching Intern Seminar (1)
(Same as History 256(3256).) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of educational philosophy, social studies curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, Sec Ed 290.

257(3257) United States History for the Secondary Classroom (3)
(Same as History 257(3257).) Adapts the themes and subject matter of American history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the 38-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification.

258(3258) World History for the Secondary Classroom (3)
Prerequisite: Sec Ed 213(3213), Graduate standing or consent of instructor. (Same as History 258(3258)). Adapts the themes and subject matter of World history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification.

261(3261) Methods of Teaching Keyboarding and Formatting (3)
Prerequisite: Intermediate Typewriting or equivalent. Instruction in the methods and techniques used to teach keyboarding and document formatting.

263(3263) Methods of Teaching Accounting (3)
Prerequisites: BA 140(2410), BA 145(2415), or equivalent. Methods and techniques of teaching data processing and accounting in the secondary schools.

264(3264) Methods of Teaching Basic Business Subjects (3)
Prerequisites: Econ 51(1001) or equivalent, BA 206(3700) and/or BA 256(3900). Methods and techniques of teaching basic business, business law, economics, consumer economics, and business principles and management in the secondary school curriculum.
267(3267) The Secondary Business Curriculum (3)
Prerequisite: Ed Fnd 111(1111) or equivalent or consent of instructor. Study of the scope and sequence of business education courses in the high school curriculum. Attention is directed toward the history of business education, curricular change, standards, evaluation, and research in the field of business education.

270(3700) English Student Teaching Seminar (2)
(Same as English 270(3700).) Prerequisite: Sec Ed 290(3290). A seminar in the integration of English curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec Ed 291(3291).

273(3273) The Curriculum and Methods of Teaching Art (3)
Prerequisites: Sec Ed 213(3213) and a near major in the subject matter. A study of the scope and sequence of art courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of art. To be taken concurrently with student teaching.

274(3274) Curriculum and Methods of Teaching Foreign Language (3)
(Same as FLL 264(3264).) Prerequisites: Sec Ed 213(3213) and passing the departmental language skill test. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign language. To be taken prior to student teaching. This course must be completed in residence.

275(3275) Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)
(Same as Music 267(3670).) Prerequisites: Music 131(2311/2312), Music 257(3570)/Ele Ed 277(3277), and Ed Fnd 111(1111); concurrent registration in Music 261, Music 268(3680)/Sec Ed 276(3276) or Music 269(3690)/Sec Ed 277(3277) and Music 270(3700)/Sec Ed 278(3278) or Music 271(3710)/Sec Ed 279(3279). For the music education major. A study of the secondary school music program: curricular objectives, philosophy, and general administrative procedures common to all secondary music classes. This course must be completed in residence.

276(3276) Curriculum and Methods of Teaching Instrumental Music I (2)
(Same as Music 268.) Prerequisites: Music 131(2311/2312), 145, 151(2510), 161(2610), Ed Fnd 111(1111), two of the following: Music 25(1250), 26(1260), 27(1270), and 28(1280). Concurrent registration in Music 257(3570)/Ele Ed 277(3277). A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music Education program. Topics include student recruitment, the elementary band/orchestra, small group instruction, jazz ensemble, and marching band. This course must be completed in residence.

277(3277) Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)
Prerequisites: Music 131(2311/2312), Music 257(3570)/Ele Ed 277(3277), and Ed Fnd 111(1111). (Same as Music 269(3690).) Concurrent registration in Music 267(3670)/Sec Ed 275(3275) and Music 271(3710)/Sec Ed 279(3279). For the music Education major. A study of the middle school/ junior high school general music program emphasizing a conceptually based curriculum, objectives, methodologies, materials, innovations, classroom organization, and management. This course must be completed in residence.

278(3278) The Curriculum and Methods of Teaching Instrumental Music II (2)
Prerequisites: Music 131(2311/2312), 152a(3521), 162(3620), Music 257(3570)/Ele Ed 277(3277), Music 268(3680)/Sec Ed 276(3276) and 111(1111), three of the following: Music 25(1250), 26(1260), 27(1270), 28(1280). (Same as Music 270(3700).) Concurrent registration in Music 267(3670)/Sec Ed 275(3275) Continuation of Music 268(3680)/Sec Ed 276(3276)Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation. This course must be completed in residence.

279(3279) Curriculum and Methods of Teaching Secondary Choral Music (2)
(Same as Music 271(3710).) Prerequisites: Music 131(2311/2312), Music 257(3570)/Ele Ed 277(3277), and Ed Fnd 111(1111); concurrent registration in Music 261, Music 267(3670)/Sec Ed 275(3275), Music 269(3690)/Sec Ed 277(3277). For the music Education major. A study of the secondary school choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes. This course must be completed in residence.

285(4985) Curriculum and Methods of Teaching Life Sciences (4)
(Same as Biology 285(4985).) Prerequisites: Sec Ed 213(3213) and a near major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. The analysis of teaching/learning and field experience observations in secondary school classrooms will be integrated into classroom activities and discussions. This course must be completed in residence.
286(4986) Laboratory in Teaching Life Sciences (2)
(Same as Biology 286(4986).) Prerequisite: Sec Ed 213(3213). Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285(4985)/Sec Ed 285(4985).

290(3290) Secondary School Student Teaching (12)
Prerequisites: Sec Ed 213(3213) and admission to student teaching. Clinical teaching experience in secondary school classrooms under university and school supervision. To be taken after appropriate curriculum and methods course.

293(3293) Student Teaching in Music Education, K-6
(5)
Prerequisites: Ele Ed 210(3210), Sec Ed 213(3213), Music 257(3570)/Ele Ed 277, Music 267(3670)/Sec Ed 275(3275), Music 118(2180), Music 268(3680)/Sec Ed 276(3276), Music 270(3700)/Sec Ed 278(3278) (instrumental emphasis majors); Music 120(3290), Music 269(3690)/Sec Ed 277(3277), Music 271(3710)/Sec Ed 279(3279) (Choral/vocal emphasis majors); and admission to student teaching. Must be taken "in block" with Sec Ed 294(3294) and must immediately precede it in the semester. Clinical teaching experience in music education settings in the schools under university and school supervision with seminar included. Required of all majors in music education.

294(3294) Student Teaching in Music Education, 7-12
(5)
Prerequisite: Sec Ed 293(3293). Must be taken "in block" with Sec Ed 293(3293) and must immediately follow it in the semester. Clinical teaching experience in music education settings in the schools under university and school supervision with seminar included. Assignments will be in different settings from those of Sec Ed 293(3293). Required of all majors in music education.

305(4880) Writing for Teachers (3)
(Same as English 305(4880).) Prerequisite: English 210(3100) or a comparable course in advanced composition. Designed for prospective as well as in-service teachers, the course includes: (1) writing--short papers to be shared in workshop groups; (2) reading--current theory and research on writing and the implications for teachers; (3) teaching--classroom activities that foster growth in writing.

315(4315) The Middle Level School (3)
Prerequisites: Ed Fnd 111(1111) or equivalent and admission to teacher education program. An in-depth study of the philosophical and historical bases of the goals and organization of middle level schools, including a review of research as the bases for current trends and practices.

360(4360) Administration and Supervision of Office Personnel (3)
Prerequisite: Consent of instructor. An advanced course in office administration and supervision designed to meet the needs of business personnel involved in administrative office management work; emphasis on updating leadership and human relations skills, organizing, planning, controlling office services, and business data processing systems.

361(4361) Information Processing: Applications and Techniques of Teaching (3)
Prerequisite: Sec Ed 162(2162) Sec Ed 261(3261), or equivalent, or consent of instructor. The course will focus on the needs of pre-service and in-service teachers who instruct courses in information processing. Special emphasis placed on organizing and managing an information processing lab, software applications, integration of information processing concepts into existing courses, teaching strategies, and current information processing research.

362(4362) Teaching Alpha Writing Systems: Theory and Application (3)
Prerequisite: Consent of instructor. A study of alphabetic shorthand writing systems. Instruction in the theory and application of alpha writing systems. Emphasis on teaching techniques, learning activities, evaluation, testing, and current research.

367(4367) Methods of Teaching Desktop Publishing Concepts and Procedures (3)
Prerequisite: Sec Ed 162(2162); Sec Ed 261(3261) or consent of instructor. This course will focus on the integration of text and graphics using graphic design and electronic page assembly with a microcomputer-based system. Special emphasis placed on Desktop Publishing concepts, methods, and techniques. Attention is directed toward teaching techniques, learning activities, evaluation and current research.

374(4374) Foreign Language Teaching Seminar (2)
(Same as FLL 364(4364).) Prerequisite: Concurrent enrollment in Sec Ed 290(3290) or consent of instructor. A practicum course in the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of Sec Ed 274(3274), Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with Sec Ed 290(3290), Student Teaching.

386(4391) Teaching Reading in Secondary School Content Areas (3)
Prerequisite: Tch Ed 310(3310) and 312(3312), or consent of instructor or equivalent. Methods and materials for improving reading and study strategies in content area classes in upper grades.
391(4393) Field Study in Secondary Education (1-10)
Identification of specific problems in the area of secondary education. Course is conducted as a field study in the public schools. A maximum of 8 credit hours may be applied toward an advanced degree contingent upon adviser approval.

393(4399) Student Teaching in Music Education, K-12
(S) Prerequisite: Sec Ed 294(3294) or equivalent and admission to student teaching. Clinical teaching experience in music Education settings in the schools under university and school supervision with seminar included. For students who wish an additional student teaching experience.

399(4993) Science Teaching Intern Seminar (3)
(Same as Biology 399(4999). Prerequisites: Sec Ed 285(4985) and Sec Ed 286(4986). Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, Sec Ed 290(3290).

404(6404) Seminar (1-10)

413(6413) Secondary Teaching with Microcomputers (3)
Prerequisite: Educ 301(4301) or consent of instructor. A course designed for teachers, department heads, and school administrators. Research and theory on microcomputer-assisted instruction as a teaching method in the secondary schools will be presented. Both hardware and software suitable for microcomputers will be used and analyzed.

414(6414) Teaching the Gifted/Talented Student in Secondary School (3)
A survey of research and theory on teaching the gifted/talented student in secondary school. Ways to identify the gifted/talented with emphasis on teaching the gifted/talented in both heterogeneous and homogenous secondary classrooms. Models of gifted/talented programs in a school setting.

415(6415) The Secondary School Curriculum (3)
For secondary school principals, teachers, and superintendents. Present methods in curricular change and methods of curricular investigation.

416(6416) Curriculum Construction for Secondary Schools (3)
Prerequisite: Sec Ed 415(6415) or consent of instructor. Designed for those engaged in curriculum revision work and construction of new secondary school courses.

420(6420) The Improvement of Secondary School Teaching (3)
For secondary school teachers, principals, and superintendents with considerable training in education and experience in teaching. Recent developments in secondary school teaching.

422(6422) Individualizing Instruction in Secondary Schools (3)
This course surveys a variety of theoretical models and research findings related to individualized instruction in the secondary school and are designed for teaching and administrative personnel.

426 Secondary School Curriculum Reform in the Earth/Space Sciences (4)
Prerequisites: Graduate standing. Field-based experiences in improving the district-level K-12 school science program, with special attention to the earth/space sciences. Emphasis is given to planning and implementing standards-based secondary school earth/space science activities that are built on the district K-6 science program.

427(6427) Supervision of Clinical Experiences in Teacher Education (3)
Prerequisites: Teaching experience and consent of instructor. A consideration of the clinical phase of the teacher education program, with special emphasis on student teaching. Examination of role responsibilities and supervisory practices. Study of professional literature for research findings, theoretical formulations, and recent developments in the field.

428 Secondary School Curriculum Reform in the Life Sciences (4)
Prerequisites: Graduate standing. Field-based experiences in improving the district-level K-12 school science program, with special attention to the life sciences. Emphasis is given to planning and implementing standards-based secondary school life science activities that build on the district K-6 science program.

429(6429) The Department Head (3)
This course emphasizes the role of the department chairperson as an educational leader. Theoretical concepts are related to sound practice. The potential for the job is discussed, as well as the roadblocks to successful execution. Appropriate for practicing department chairpersons, school administrators, or classroom teachers interested in acquainting themselves with this position.

430(6430) Systems of Teaching English in the Secondary School (3)
A review of recent developments in the teaching of secondary English. Special attention is given to research involving instructional problems in urban and suburban schools. The course is designed for teachers, department heads, and supervisors in secondary English programs.
452(6452) Systems of Teaching Social Studies in the Secondary Schools (3)  
A review of recent developments in the teaching of secondary school social studies. Special attention is given to research and scholarship involving instructional and curricular problems, especially in the metropolitan St. Louis area. Emphasis is placed upon development of effective materials, techniques, and resources. The course is designed primarily for teachers and supervisors in secondary school social studies programs.

484(6484) Secondary School Curriculum Reform in the Health Sciences (4)  
Prerequisites: Graduate standing. Field-based experiences in improving the district-level level K-12 school science program, with special attention to the health sciences. Emphasis is given to planning and implementing standards-based secondary school health science activities that build on the district K-6 science program.

485 Secondary School Curriculum Reform in the Physical Sciences (4)  
Prerequisites: Graduate standing. Field-based experiences in improving the district-level K-12 science program, with special attention to the physical sciences. Emphasis is given to planning and implementing standards-based secondary school physical science activities that build on the district K-6 science program.

486(6986) Techniques in Teaching Biology for Graduate Students (2)  
(Same as Biology 486.) Prerequisites: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student teacher interactions. Recommended for all graduate students with teaching assistantships.

490(6490) Internship (1-10)  
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497(6497) Problems (1-10)  

Special Education (Spc Ed)  

192(3192) Field Experience in Special Education (3)  
Intensive early field experience involving on-site observation and limited participation with exceptional individuals in schools and/or other Educational agencies. This course is open to all students.

242(3242) Characteristics of Learning Disabilities (3)  
A study of the divergent characteristics of children with perceptual impairments. This course consists of fifteen half-hour tapes, designed to offer instruction at an undergraduate level on the nature of children with learning disabilities, and the roles of educators, parents, and auxiliary personnel in diagnosis and remediation. Historical perspectives and future trends will be explored. The tapes are followed by student contact with the instructor, for discussion, work evaluation, and testing.

290(3290) Student Teaching in Special Education I (6)  
Prerequisites: TchEd 210(2210), 211(2211), 212(2212), 310(3310), 312(3312), 313(3313), 315(3315), SpcEd 320(3320), 332(3332) and admission to student teaching. Must be taken with SpcEd 291(3291) and must immediately precede SpcEd 291(3291) in the same semester. Clinical teaching experience in special education classrooms in schools under university and school supervision. Required of all majors in special education.

291(3291) Student Teaching in Special Education II (6)  
Prerequisite: Spc Ed 290(3290). Must be taken with Spc Ed 290(3290), and must immediately follow Spc Ed 290(3290) in the semester. Clinical teaching experiences in elementary school classrooms under university and school supervision. Assignments will be in different grade levels from those of the SpcEd 290 assignments. Required for all majors in special education.

301 Special Education Orientation (2)  
Prerequisites: Admission to Special Education Transition Program or consent of instructor. This course examines characteristics of students in cross-categorical placements. Examination of special education philosophy, historical and legal issues, special education process, and personal traits.

302 Special Education Process and Performance Assessment (2)  
Prerequisite: Spc Ed 301 or consent of instructor. This course examines the special education process from pre-referral to placement, and the roles of educators, parents and auxiliary personnel. Examines informal and formal assessment procedures and instruments for screening, diagnosis, placement and performance of school-aged individuals.

303 Instructional Practices (3)  
Prerequisite: SPC ED 301 or consent of instructor. This course provides an in-depth examination of methods and techniques for use in the education of students in cross-categorical placements.
304 Structure of Teaching and Communication
Prerequisite: SPC ED 303 or consent of instructor. This course provides a study of the problems associated with speech and language development and the techniques employed by classroom teachers. Examination of transition requirements and strategies for students in cross-categorical placements in order to utilize communication skills for effective collaboration with students, parents, colleagues, and community agency representatives.

305 Planning and Managing the Teaching and Learning Environment (3)
Prerequisite: SPCED 303 or consent of instructor. This course provides an in-depth exploration of various behavior management techniques that are particularly applicable for students in cross-categorical placements. Projects on functional behavioral assessment and behavior support plans will be conducted.

306 Research Into Practice (4)
Prerequisite: SPC ED 305 or consent of instructor. This course provides an examination of current trends, issues and research in the education of students in cross-categorical placements with particular emphasis on instructional and management issues, effective inclusive education practices, and behaviorist and constructivist strategies for delivering instructional content and reflective practices.

307 The Reflective Practitioner (4)
Prerequisite: SPC ED 306 or consent of instructor. This course provides reflection on all competency areas associated with the education of students in cross-categorical placements. Self-assessment on abilities and self-reflection on professional development. Selected problems on student-learner exceptionalities. A selective portfolio for K-12 Mild/Moderate Cross-Categorical endorsement is required.

311(3311) Sex Education for Exceptional Individuals (3)
Prerequisite: Consent of instructor. Course is designed to give teachers a thorough knowledge and understanding of the issues, problems, teaching techniques, and the current curricular resources of teaching sex education to handicapped individuals.

313(3313) Introduction to Learners with Disabilities and Inclusive Education (3)
Prerequisite: Psychology 270(2270) or Psychology 271 or equivalent. The psychology and education of individuals with special problems and/or abilities. Survey of theories and strategies for the learning-teaching process and of sources of assistance to educators and parents. Required in certification programs.

315(4315) Speech and Language Problems of Exceptional Children (3)
Prerequisites: Ed Fnd 111(1111), Spc Ed 313(3313), and admission to the College of Education. Study of the problems associated with speech and language development and the techniques employed by classroom teachers to lessen these problems for children. Required for all majors in special education.

320(4320) Behavior Management (3)
Prerequisites: Spc Ed 313(3313) and an appropriate introductory course in the special education area of concentration. An in-depth exploration of various behavior control techniques that is particularly applicable to exceptional children. Students will be required to conduct at least one behavior modification project with exceptional children.

322(4322) Inclusive Education: Theory and Practice (3)
Prerequisites: Spc Ed/Tch Ed 313(3313) or Spc Ed 416(6416), or equivalent. This course for general and special educators focuses on current theory, research, and practice of inclusion of students with disabilities in general education classrooms. Topics include instructional strategies, adaptations of curriculum, facilitation of friendship development and social support, consultation and collaboration with other professionals, and working with parents.

330(3330) Introductions to Mental Retardation and Severe Handicaps (3)
Prerequisite: Spc Ed 313(3313). An introductory course describing characteristics, classification, and causes of mental retardation and severe handicapped.

332(3332) Educating Learners with Developmental Disabilities, Physical or other Health Impairments (3)
Prerequisites: Tch Ed 211(2211), Spc Ed 313(3313), and Spc Ed 345(3345). Methods and techniques for educating learners with developmental disabilities, physical or other health impairments. Required of all who are preparing for certification in special education with endorsement in Developmental Disabilities or Cross Categorical.

342(4342) Transitions Issues and Planning
Prerequisite: Tch Ed 313(3313), or equivalent, or consent of instructor. This course provides information to teachers and human service professionals who work closely with adolescents and young adults with disabilities. Emphasis is placed on understanding and planning for the transition from school to adult life for students with disabilities, including employment, residential, and developmental concerns. Topics include self-determination, career education and planning, interagency collaboration, vocational and residential issues and resources, and family support and involvement.
345(3345) Introduction to Learners with Mild/Moderate Disabilities (3)
Prerequisites: SPC ED/TCH ED 313(3313) or equivalent or consent of instructor. Introduction to the history, etiologies, definitions, characteristic with mild/moderate Emotional/Behavioral Disorders, prevalence, and service delivery systems for learners, Learning Disabilities, Developmental Disabilities, and Physical/Other Health Impairments.

347(3347) Teaching Learners with Learning Disabilities (3)
Prerequisites: Spc Ed 313(3313) and Spc Ed 345(3345). Application of instructional techniques for learners with learning disabilities, including assessment for instruction, interdisciplinary teamwork, parental involvement, individualized education plans, and classroom techniques. Required for certification in special education of learners with learning disabilities or cross-categorical.

350(3350) Teaching Learners with Emotional/Behavioral Disorders (3)
Prerequisites: Spc Ed 313(3313) and Spc Ed 345(3345). A course designed to instruct students in the management and instructional strategies necessary to the education of learners with emotional/behavioral disorders or cross-categorical.

370(4370) Sensory-Motor Development of the Severely Handicapped (3)
Prerequisite: Spc Ed 330(3330) or equivalent or consent of instructor. An examination of basic sensory-motor development and associated disorders to enable teachers to work more effectively with occupational and physical therapists. Basic techniques used by therapists are presented together with an exploration of the teacher's role regarding sensory-motor programming. Required for certification for teaching individuals with severe handicaps.

371(4371) Methods and Curricula for Severely Handicapped (3)
Prerequisite: Spc Ed 370(4370) or consent of instructor. This course begins with the application of the clinical teaching model to the severely handicapped population regarding objectives, training methods, and program process monitoring. It also includes critical analysis of existing curricula and methods of classroom or living unit organization. Required for certification in Severe Handicapped.

372(4372) Screening and Diagnosis of the Developmentally Delayed (3)
Prerequisites: Ed Rem 310 or equivalent and Spc Ed 313(3313). This course addresses the content, techniques, and special problems related to the assessment of handicapped individuals in the birth-to-five developmental range. Students gain experience in construction, administration, and interpretation of assessment tools used with low functioning handicapped individuals. Required for certification in Severe Handicapped and Early Childhood-Special Education.

382(4382) An Introduction to Gifted Children (3)
Prerequisite: Spc Ed 313(3313). This course provides an introduction to gifted children. Their characteristics, cognitive abilities, special abilities, and creativity will be reviewed. Current problems, research, and issues concerning the gifted are covered.

384(4384) The Education of Gifted Children (3)
Prerequisite: Spc Ed 313(3313). This course deals with methods, techniques, and curricular modifications necessary for the effective education of gifted children.

390(4390) Student Teaching in Special Education III (6)
Prerequisites: Spc Ed 291(3291) or equivalent and admission to student teaching. Clinical teaching experience in special education classrooms in schools under university and school supervision with seminar included. For students who wish an additional student teaching experience.

405(6405) Introduction to Braille (4)
Braille reading and writing of Standard English Grade 2 braille and braille mathematics will be introduced. Information on transcribing printed matter into braille and the use of writing devices and technical aids will be presented. The objectives of this class will be met over two semesters due to the large amount of information and high level of proficiency required. A literary braille test and transcription test must be passed at the end of the course.

412(6412) Psychology of Exceptional Children (3)
An in-depth analysis of the unique psychological problems of exceptional children and youth. Current psychological theories and research emphasized.

413(6413) Organizational Foundations for Special Education (3)
Prerequisite: Spc Ed 313(3313) or equivalent. A study of organizational issues in special education and implications for practices and procedures. Specific attention will be given to special education delivery systems, compliance standards, funding sources, and regulatory standards.

416(6416) Current Research in Psychology of Learners with Disabilities (3)
Prerequisite: Consent of instructor/adviser. Study of current trends, issues, and research in special education. Areas of investigation focus on major developments in disabilities, situations related to programming for projected needs, and considerations and utilization techniques with learners with disabilities. Students should have experience or an undergraduate background in the education of learners with disabilities prior to enrolling in this course.
421(6421) Prescriptive Teaching of Learners with Disabilities (3)
Prerequisite: Spc Ed 313(3313) or equivalent. Course will instruct students on how to develop and implement prescriptive educational programs for learners with disabilities. Students will become familiar with prescriptive systems, which will enable them to use various sources of information in response to learner remedial and developmental needs.

430(6430) Introduction to Developmental Disabilities (3)
Prerequisite: Spc Ed 313(3313) or equivalent. An advanced study of the theoretical and methodological problems related to developmental disabilities. Particular emphasis on the application of current research findings to the problems confronting learners with developmental disabilities.

431(6431) Education of Learners with Developmental Disabilities (3)
Prerequisite: Spc Ed 430(6430). A systematic study of current educational practices and procedures for the education of learners with developmental disabilities. Methods and materials are stressed.

443(6443) Introduction to Learning Disabilities (3)
Prerequisite: Spc Ed 313(3313) or equivalent. Advanced study of the theoretical and methodological problems related to learning disabilities. Particular emphasis on the application of current research findings to the problems confronting learners with disabilities.

444(6444) Education of Learners with Learning Disabilities (3)
Prerequisite: Spc Ed 443(6443). Systematic study of current educational practices and procedures for the education of learners with learning disabilities. Methods and materials are stressed.

450(6450) Introduction to Emotional/Behavioral Disorders (3)
Prerequisite: Spc Ed 313(3313) or equivalent. Advanced study of the problems and characteristics of learners with emotional/behavioral disorders. Particular emphasis on the application of current research findings to problems confronting learners with emotional/behavioral disorders.

452(6452) Education of Learners with Emotional/Behavioral Disorders (3)
Prerequisite: Spc Ed 450(6450). Systematic study of current educational practices for learners with emotional/behavioral disorders. Methods and materials are stressed.

462(6462) Introduction to Early Childhood Special Education (3)
Prerequisite: Spc Ed 313(3313) or equivalent. A study of issues and concepts central to special Education of young children with disabilities, and at-risk for disabilities, and their families. Focus on program models, screening and assessment procedures, and curriculum concepts. An ecological perspective is emphasized.

463(6463) Curriculum, Methods, and Materials for Early Childhood Special Education (3)
Prerequisites: Spc Ed 462(6462). In-depth study of integrated assessment-based curriculum development for learners in early childhood special education. Emphasis on individualized educational planning and implementation for learners and their families.

481(6481) Introduction to Orientation and Mobility (3)
This course is an introduction to the principles of orientation and mobility and is designed to acquaint the student with the effects of visual impairment on spatial orientation and movement within the environment. Topics will include instructional strategies for developing prerequisite concepts, basic travel techniques, structuring the classroom environment, low vision orientation and mobility, and orientation and mobility devices for individuals who are visually impaired.

483(6483) Instructional Strategies and Technology for Students with Visual Impairment (4)
This course focuses on meeting the instructional needs of visually impaired and blind elementary and secondary students through the use of curricula adaptations and technology. Topics include designing and implementing instructional plans to teach keyboarding skill, math, science, and social studies; listening and recording devices; transition; and the use of computers with students who are visually impaired. The objectives of this class will be met through in class, lab, and out of class activities. Students will be expected to have an ongoing interaction with students who are visually impaired through directed experiences.

490(6490) Internship (1-10)
Prerequisite: Consent of instructor/adviser. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship includes planning, research, evaluation, and related professional activities.

492(6492) Practicum in Special Education (3-6)
Prerequisite: Two courses in area of concentration (developmental disabilities, early childhood special education, emotional/behavioral disorders, or learning disabilities). Supervised experience in the education of learners with disabilities in a school or other appropriate setting.
493(6493) Practicum with Students with Visual Impairment (6)
Prerequisites: Sped Ed 366, 405(6405), 481(6481), 482, 483(6483) and all required course work for certification for Teachers of Blind and Partially Sighted Students. This practicum focuses on the techniques and materials necessary to education students who are visually impaired and on procedures for evaluating their effectiveness. This supervised practicum involves both field placement and classroom instruction. It is limited to advanced students in the area of Blind and Partially Sighted.

497(6497) Problems (1-10)
Prerequisite: Sped Ed 313(3313) or equivalent and consent of instructor. Investigation of a selected problem related to the education of learners with disabilities. To be conducted under the direction of a graduate faculty member.

Teacher Education (Tch Ed)

210(2210) Introduction to Teaching (3)
Explores the multiple roles and functions of professional teaching including: communication, leadership, management skills, use of technology, and identification of needs of diverse populations. Portfolio preparation will be introduced. Fourteen clock hours of classroom observation are required.

211(2211) Introduction to American Schools (3)
One of three introductory, prerequisite courses to the Teacher Education Program. An examination of selected concepts and principles underlying American public education. Required field experience of eight clock hours complements class assignments.

212(2212) Introduction to Learners and Learning (3)
Prerequisites: Psych 3(1003). (Same as Ed Psy 212(2212).) Foundational study of the development of infants, children and adolescents focusing on the role of appropriate educational environments in fostering positive physical, cognitive, social and moral outcomes. Reading relevant research will be combined with experiences in the field and technology-based assignments to investigate both biological and sociocultural forces that shape the development process.

310(3310) Introduction to Instructional Methods (3)
Prerequisites: Tch Ed 210(2210), 211(2211), 212(2212), or equivalent and admission to Teacher Education Program. Beginning methods course for K-12 teachers. Skill development in planning instruction, selecting content, use of various teaching methods, designing assessment, developing classroom climate and management strategies. Participation in professional development through observing students in a school setting, microteaching, using educational technology, and portfolio development. Ten hours per semester of field experiences required.

311 Foundations of Education (4)
Prerequisites: Acceptance into the post-baccalaureate teacher education certification program. Investigation into the history, philosophies, and purposes of public schools and the multiple roles played by professional educators. Emphasis will be on the history of public education, the role of the teacher as change agent, the influence of technology, and the impact of diversity on American classrooms.

312(3312) The Psychology of Teaching and Learning (3)
Prerequisites: Tch Ed 210(2210), Tch Ed 211(2211), Tch Ed 212(2212) or equivalents and admission to Teacher Education program. (Same as Ed Psy 312(3312).) Application of the principles of psychology to an understanding of the dynamics of teaching behavior and learning behavior. Involves both theoretical and practical approaches to analysis of the learning environment of the school. Required of all who are preparing to teach.

313(3313) Introduction to Learners with Disabilities and Inclusive Education (3)
Prerequisites: Tch Ed 210(2210), 211(2211) or equivalent, and admission to Teacher Education program. (Same as Sped Ed 313(3313).) Provides an overview of inclusive education and special education with an emphasis on relevant educational legislation, important historical development, and necessary adaptations of instructional methods to meet the needs of students with disabilities. Issues related to inclusive education, such as professional collaboration, family involvement, multicultural issues, transition services, and professional support for teachers are also covered.

315(3315) Literacy Learning and Instruction (3)
Prerequisites: Admission to the Teacher Education program. May take concurrently with Tch Ed 312(3312) and Tch Ed 313(3313) or equivalents; may not be taken before Tch Ed 312(3312) and Tch Ed 313(3313) or equivalents. Methods, materials, frameworks, and technology for the effective teaching of literacy to young children, children with special needs, and children in elementary education settings. Emphasis on role of language experience, phonics, semantics, syntactics, pragmatics, schema theory, and metacognition in literacy development. Observation, assessing children's literacy interests and development, and teaching lessons in a school classroom setting are required.

436(6880) Gateway Writing Project (1-6)
(Same as English 490(5880).) An intensive course in the writing process and the writing curriculum, designed for experienced teachers. Readings of current theory and research will be related to participants' experience as writers and as teachers. Topics may vary. May be repeated for credit. No more than six hours may be applied toward the M.Ed. Counts toward the Certificate in Writing.
446 Seminar in Professional Writing for Teachers (3)
Prerequisite: Tech. Ed. 436, Eng. 490(5880), and near-completion of Graduate Certificate in the Teaching of Writing. Capstone seminar for the Graduate Certificate in the Teaching of Writing. Participants will pursue the dual role of writer/writing teacher by designing individual projects with one of these emphases: (1) research writing based on a classroom inquiry into the teaching of writing, (2) expository and creative writing based on an inquiry into the teacher's own evolution as a writer. Seminar meetings will include both face-to-face and on-line communication.

454(5454) Cultural Diversity in Teaching (3)
Prerequisite: Graduate standing. An advanced study, application, and discussion of pedagogical issues associated with cultural diversity and human origin. The course will emphasize application of research in order to help teachers develop effective strategies for preparing teachers to integrate.
Evening College
Evening College

The Evening College provides undergraduate degree programs for students who, for various reasons, choose to attend evening classes. Thirty-one degree programs are offered through the Evening College. Courses needed as prerequisites for graduate programs are available. In addition, persons who want to maintain their professional competence or broaden their educational background without pursuing degree work will find a broad array of courses which may be taken for credit or on an audit basis.

Recognizing the value of continuing education and career advancement, many St. Louis institutions, businesses, and industries encourage their employees to avail themselves of the educational opportunities offered by the Evening College. The Veterans Administration has approved advancement, many of the educational opportunities offered by the Evening College. Since most Evening College students are employed full time, they normally carry less than a full academic load. To enable students to carry as many courses as they wish, the Evening College schedules classes after 5 p.m. and limited offerings on Saturday mornings. Classes and degree programs are conducted according to the same standards as the day program.

Course Areas The Evening College offers courses in the following areas: anthropology, art, astronomy, biology, business administration, chemistry, communication, computer science, criminology and criminal justice, economics, education, English, French, geography, geology, German, history, mathematics, music, philosophy, physics, political science, psychology, sociology, social work, and Spanish.

Academic Advising and Program Planning
New students are encouraged to consult with an academic adviser to develop programs appropriate to their needs. Students can see an academic adviser by calling or stopping by the University Advising Center, 225 Millennium Student Center, (314) 516-5161. All students may come to the University Advising Center for advising, see a faculty adviser in their department, or see a professional adviser in their college, school or professional school.

Facilities The facilities of the University of Missouri-St. Louis, including the computer center, library, laboratories, cafeteria, cashiers, bookstore, financial aid, health service, and admissions office, are open in the evening. Evening College students are also eligible to participate in any of the university sports programs that interest them. The athletic facilities of the Mark Twain Building are available.

Alpha Sigma Lambda The Beta Epsilon Chapter of Alpha Sigma Lambda is a national honorary scholastic society for Evening College students. To be eligible for membership, a student must have completed at least four semesters of college or university work, completed a minimum of 24 semester hours in the Evening College, have a cumulative grade point average of 3.2, and be enrolled in the Evening College.

Degree Programs

General Education Requirements
All candidates for a degree through the Evening College must meet the university general education requirements.

Bachelor of Arts
Majors available for the B.A. degree are biology, chemistry, communication, economics, English, history, mathematics, physics, political science, psychology, and sociology. For further information, consult the appropriate departmental section of the College of Arts and Sciences or College of Fine Arts and Communications portion of this Bulletin.

Bachelor of Science
The B.S. degree is available in applied mathematics, biology, chemistry, computer science, criminology and criminal justice, economics, mathematics, physics, and sociology. For further information, consult the appropriate departmental section of the College of Arts and Sciences portion of this Bulletin.

Specialized Bachelor's Degrees
Also available are the bachelor of science in accounting (B.S.A.), bachelor of science in business administration (B.S.B.A.), the bachelor of science in management information systems (B.S.M.I.S.), the bachelor of science in education (B.S.Ed.), and the bachelor of science in public policy and administration (B.S.P.A.). The B.S. in education offers specialization in any of the following: early childhood education, elementary education, middle school/junior high school, special education, and secondary education. Students should consult the appropriate departmental section of the College of Arts and Sciences, the College of Business Administration, or the College of Education of this Bulletin.

Bachelor of Social Work
The B.S.W. degree program is designed to prepare persons for employment in social welfare agencies, schools, hospitals, correctional institutions, or day care, geriatric, or rehabilitation centers. Individuals currently working in social welfare settings can improve their skills and increase their opportunities for job advancement. For further information, consult the Social Work section of this Bulletin.

The Bachelor of General Studies degree (B.G.S.) is also offered through the Evening College. It is designed to provide mature students with a meaningful alternative to traditional degree programs. It appeals to a variety of students whose circumstances, goals, and aspirations are
different from those of the "typical" college student. The B.G.S. program provides the flexibility needed to enable students, with careful advisement, to develop individualized programs of study.

Admission Requirements for the B.G.S. Program
Candidates for the B.G.S. degree must be admitted to the Evening College and must complete an application for admission to the program. Applications must be approved by the General Studies Committee and the Evening College dean. The criteria for admission are:

- Students must have reasonable programs of study, and be in good academic standing.
- Students must have demonstrated the equivalent of academic proficiency required for any other undergraduate degree at UM-St. Louis.
- Study programs should be structured to meet students' unique educational goals and should not be readily available under any other UM-St. Louis degree program.

Degree Requirements for the B.G.S. Program

General Education Requirements
Students must complete the university's general education requirements. For details refer to the general education requirements section of this Bulletin.

Personal Emphasis Area In consultation with a faculty adviser, students shall develop a personal emphasis area of at least 36 advanced semester hours of graded credit that meets their educational goals. Graded credit consists of degree credit courses in which the student received a letter grade of A, A-, B+, B, B-, C, C-, D+, D, D-.

Regardless of the focus, theme, or purpose, the personal emphasis area should result from self-examination and should meet the student's unique educational goals and should not be readily available under any other UM-St. Louis degree program.

Hour and Grade Requirements The degree requires completion of 120 semester hours with a 2.0 campus grade point average overall and in the personal emphasis area. No more than 30 hours may be taken in any one department. At least 45 hours must be earned in courses beyond the introductory level. A minimum of 24 hours of graded credit must be completed in residence at UM-St. Louis, of which 18 hours must be in the personal emphasis area and completed after admission to the B.G.S. program. No more than 18 hours may be taken on a satisfactory/unsatisfactory basis. Each candidate must be in residence for 24 of the last 30 hours of graded credit (exclusive of courses taken on a satisfactory/unsatisfactory basis).

Credit for Experience, Special Projects, Examinations, and Nontraditional Forms of Study Credit may be earned through the College Level Examination Program in accordance with university policy or through examinations proposed or approved by university departments. Credit also may be earned through correspondence study, supervised independent research study, and college-level courses offered by television or similar education media. Students are responsible for obtaining approval for credit applied under this option.

Students may receive credit for vocational experience, community service projects, or cultural activities after they have completed 24 hours of course work in residence.

Vocational Experience Credit may be granted for vocational experience when related to the personal emphasis area. Credit cannot exceed 3 semester hours for each year of experience with a maximum of 12 hours allowed only in exceptional circumstances. Petitions for vocational experience credit must be accompanied by a job description verified by the employer or similar appropriate evidence. Credit may be granted only upon recommendation of the faculty adviser and approvals of the dean and the General Studies Committee.

Community Service Projects/Cultural Activities Credit not exceeding 6 hours may be earned for participation in approved community service projects or cultural activities. The projects or activities must be formulated by the student and carried out under the supervision of a faculty member with the approval of the adviser, dean, and General Studies Committee. Students must submit a written report approved by the supervisor upon completion of the projects or activities. Credit for vocational experience or community service/cultural activities may be applied toward the elective credits required for the degree but may not be used to complete the personal emphasis area or general education requirements.

Students must file a degree application form in the Evening College at least one year before the expected graduation date.

Minors

Minor in Employee Training and Development The Evening College and the College of Business Administration offer a minor in employee training and development. The requirements are:

- BA 318(3623), or Psych 318(3318), Industrial and Organizational Psychology
- BA 319(3624), Employee Training and Development
- Ed Psy 312(3312), Psychology of Teaching and Learning
- Ed Tec 340(5340), Selection and Utilization of Educational Media
- Psych 219(2219), Research Methods
One additional course selected from these approved electives:
BA 309(3621), Human Resources Management
Comm 141(1141), Business and Professional Speaking
Sociology 354(4354), Sociology of Business Work Settings

Students should consult with an adviser when planning their programs. A 2.0 grade point average is required for the minor. No courses may be taken on a satisfactory/unsatisfactory basis. At least 12 credits of those required must be completed in residence at UM-St. Louis.

This minor is designed for human resources managers in small companies and training managers or human resources specialists in larger companies. The required 18 hours, including the approved elective course, enable the student to be exposed to different skills essential for the occupational area.

Other minors in business administration include accounting, finance, general business, logistics and operation management, management and organizational behavior, marketing, and management information systems.

Other Minors
Minors are also available in biology, black studies, chemistry, communication, computer science, criminology and criminal justice, economics, English, history, legal studies, mathematics, political science, philosophy, physics, psychology, public affairs journalism, social work, sociology, and urban studies. For currently offered minors, consult an adviser.

Certificates
Certificate programs are available in various areas of study. For more information, consult the Certificate Programs section of this Bulletin.

Career Outlook

Many graduates of the Evening College have found their careers advanced upon obtaining their degree. Some have entered new careers in midlife, and others have found personal satisfaction in the acquisition of knowledge for its own sake. The Evening College staff consists of advisers with extensive experience concerning adult students' needs. Call the Evening College office, (314) 516-5161 for more information.
College of Fine Arts and Communication
College of Fine Arts and Communication

The College of Fine Arts and Communication at the University of Missouri-St. Louis includes the Departments of Art and Art History, Communication, Music and Theatre and Dance. The faculty and alumni of this college have distinguished themselves as scholars, visual artists, teachers and performers. Students of the College pursue their activities in a variety of campus locations, including the Fine Arts Building, Lucas Hall, the Music Building and the General Services Building. The University's new, $55 million Performing Arts Center will open the spring of 2003, affording two world class venues for performances by individual university students and faculty, campus ensembles, and visiting artists. In addition Gallery 210, Gallery FAB, and Gallery VISIO in the Millennium Student Center, offer space for the display of student and faculty artwork, as well as visiting exhibitions.

The College of Fine Arts and Communication is distinguished by its collaboration with the community. Four endowed professorships link the University to the Saint Louis Symphony, the Saint Louis Art Museum, Opera Theatre of Saint Louis, the Laumeier Sculpture Park, and other local cultural institutions. The Des Lee Music Education Collaborative connects the University and a variety of partner cultural institutions to eleven local school districts.

General Information
The College of Fine Arts and Communication consists of some 75 full-time faculty members in the following departments, each offering work in specific undergraduate degree programs: art and art history, communication and music. In addition, the Theatre and Dance Department has begun to offer classes in theatre during the 2002-2003 academic year.

Graduate degree programs administered through the Graduate School are also offered in the communication and music departments.

Requirements for Undergraduate Study
In addition to the university general education requirements, all majors in the College of Fine Arts and Communication must meet the following requirements:

Cultural Diversity Requirement
To expand cultural awareness, all students are required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or a comparable culture. Courses that satisfy this requirement involve substantial material independent of the cultures' interactions with European cultures. If a course focuses on one facet of a culture, it must treat the topic within the context of the culture as a whole. A list of courses which fulfill the Cultural Diversity requirement may be found elsewhere in this bulletin.

To graduate, all majors in the college also must complete the following:
- Requirements of their chosen baccalaureate degree (i.e., B.A., B.F.A., B.M., etc) in accordance with the policies of the College of Fine Arts and Communication.
- Requirements of the department for their selected major or interdisciplinary program.

Academic Policies
Grade Requirements
To graduate all majors in the college must satisfy one of the following grade point options:
- Earn 120 hours with a C grade or better, which constitutes a complete degree program. Neither a grade of C- nor a satisfactory grade may be counted.
- Have a minimum UM-St Louis Campus grade point average of 2.0 and have met all the other Grade Point restrictions that are required for the degree program and the major.

Residency Requirements
Unless otherwise specified, a transfer student must complete 12 hours of graded work at UM-St. Louis at the 100 level or above within the minimum number of hours required for each major.

Unless otherwise specified, a transfer student must complete at least six hours of graded work at UM-St Louis at the 100 level or above within the minimum number of hours required for each minor. Students should consult the minor department for specific residency and grade requirements.

Specific Baccalaureate Degree Requirements
Course Requirements
After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the bachelor's degree from courses (which the appropriate department has evaluated as being of university level quality) from one or more of the following areas or their university quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematic/computer science, music, (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, or interdisciplinary.
Other areas or courses not listed require approval by the chair of the student's department.

Bachelor of Arts (B.A.)
All B.A. degree candidates must successfully complete a curriculum which includes a departmental major or an approved interdisciplinary field. A major must include at least 30 credit hours but no more than 45 hours. The college offers the B.A. degree in art history, communication and music.

Foreign Language Requirement
Candidates for the B.A. degree are required to complete 13 credit hours or the equivalent in proficiency in one foreign language. Foreign language guidelines are as follows:

1) Students entering with no high school language units must enroll in Language or may enroll in the 115 series.
2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption by passing the department's placement exam. The specific dates for the exam are announced in the Schedule of Courses or may be obtained from the admissions office or the Department of Foreign Languages and Literatures.
3) Native speakers of language other than English may meet the foreign language requirement by presenting a transcript from a university or secondary school of their native country. The department will certify native speakers of those languages which are taught at the university. Those who are proficient in other languages must submit certification of competence to the college.
4) Language 115 a, b, and c (Intensive) will satisfy the foreign language requirement. 115a, 115b and 115c are co-requisites and must be completed with a grade of C or better, to satisfy the foreign language requirement.
5) Students may not repeat for credit an elementary course if they have already completed a higher-level course for which the elementary course, or its equivalent is a prerequisite.

Applied Music and Studio Art
All students in the college may count any number of hours of applied music (private lessons) or studio art courses toward any degree in the college. This also includes transferred credit. However, students not majoring in music may count no more than eight hours in music performing organizations (Music 40, 41, 50, 52, etc) toward graduation, including credit transferred.

Bachelor of Music (B.M.)
The requirements are the same as for the B.A. degree with the addition of music education and education courses for music majors seeking state teacher certification. Although foreign language proficiency is not required, foreign language study is required for applied voice students.

Certificate Program
A certificate program is offered in photographic studies.

Department Honors
Majors in the music department may pursue department honors.

Minors
A number of minors are available at UM-St. Louis. Some are offered by individual departments, while others, such as Classical Studies and Black Studies, are interdisciplinary in nature and involve a number of departments. The requirements for the various minors are listed in either the departmental or interdisciplinary sections of this Bulletin.
College of Fine Arts and Communication
Department of Art and Art History

financial support from the National Endowment for the Arts, the Ford Foundation, and University Research grants.

General Information

Degrees and Areas of Concentration
The department offers course work leading toward the B.A in art history and the B.F.A. in studio art.

Courses included in the B.A. in art history cover the arts of Asia, Africa, Europe, and North America, including Native American arts, from ancient times to the present. Courses examine the entire range of human visual expression from painting, sculpture, architecture, and photography to performance and festival arts in the tribal world. In each case the arts are examined within their historical, aesthetic, and cultural contexts.

The B.F.A. in studio art consists of a foundation art program and an emphasis area in one of the following: drawing, graphic design, painting, photography, printmaking, and general fine arts. UM-St. Louis has a transfer agreement with the St. Louis Community College District, which offers a direct credit transfer to upper division BFA courses for students who graduate with an AFA degree from the SLCC.

To support its teaching and research objectives, the department maintains a slide collection of over 80,000 slides. The collection, which includes examples of painting, sculpture, architecture, photography and decorative arts, is under the supervision of a professional slide curator, who is available for special assistance to staff and students.

Gallery 210
Gallery 210 located in Lucas Hall offers visual arts programming of regional, national, and international importance. The gallery's exhibitions and related arts programming have enjoyed a long and distinguished history of service to the university and to the St. Louis community. Gallery activities are supervised by a professional gallery director.

Gallery FAB
Located in the Fine Arts Building, Gallery FAB exhibits a range of work by artists of regional and national significance. The exhibitions are coordinated by members of the Studio Art Faculty and complement the teaching emphases of the Fine Arts program.

Gallery Visio
Gallery Visio is a student-run gallery located in the Millennium Student Center. Its exhibitions are devoted primarily to the display of student and faculty work.

Department of Art and Art History

Faculty

Ruth L. Bohan, Associate Professor*, Chairperson
Ph.D., University of Maryland

Glen F. Gentele, Aronson Endowed Professor of Modern and Contemporary Art History, Director of Laumeier Sculpture Park
M.F.A., Maryland Institute, College of Art

E. Louis Lankford, Professor, Des Lee Foundation Endowed Professorship in Art Education*
Ph.D., Florida State University

Jay Rounds, Professor, Des Lee Foundation Endowed Professorship in Museum Studies and Community History*
Ph.D., University of California, Los Angeles

Kenneth Anderson, Professor*
M.F.A., Southern Illinois University, Edwardsville

Jeanne Morgan Zarucchi, Professor*
Ph.D., Harvard University

Yael Even, Associate Professor*
Ph.D., Columbia University

Dan Younger, Associate Professor,* B.F.A. Coordinator
M.F.A., University of Iowa

Marian Amles, Assistant Professor*
M.F.A., Southern Illinois University, Edwardsville

Phillip E. Robinson, Assistant Professor*
M.F.A. University of Illinois, Chicago

Gretchen Schisla, Assistant Professor
M.F.A., Boston University

Jeffrey L. Sippel, Assistant Professor*
M.F.A., Arizona State University

Terry L. Suhre, Assistant Professor, Gallery Director*
M.F.A., Southern Illinois University, Carbondale

Susan Waller, Assistant Professor
Ph.D. Northwestern University

Luci Mauricio-McMichael, Lecturer
M.A., Webster University

*members of Graduate Faculty

The Department of Art and Art History represents a diverse faculty actively engaged in the production of art and in its historical and critical evaluation. The department prides itself on its commitments to high standards of teaching and sound research achievements. Individual faculty has been cited for their teaching excellence. Art history faculty members have written books, articles, and critical reviews and regularly participate in national and international conferences. For their research art history faculty have received research grants from such major institutions as the J. Paul Getty Foundation, the National Endowment for the Humanities, the Andrew W. Mellon Foundation, and the American Philosophical Society. Studio art faculty exhibit nationally and internationally in group- and solo-juried and invited exhibitions. Their work has been accorded various show awards and received
Scholarships/Internships
Three scholarships are available on a competitive basis within the department: the Art Department/Barbara St. Cyr Scholarship, the William T. Isbell Jr. Scholarship, and the Aronson Scholarship. The department also sponsors a variety of internships with local arts institutions, including the St. Louis Art Museum, the Missouri Historical Society, Contemporary Art Museum St. Louis, Laumeier Sculpture Park, and various private art galleries.

Undergraduate Studies

General Education Requirements
 Majors in art history must meet the college and university general education requirements. A foreign language is required. French or German is recommended. Art history courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis.

Art history courses can be applied toward minors in Anthropology, American Studies, Classical Studies, Philosophy, and Urban Studies, or certificates in Studies in Religions, Women's and Gender Studies, Photographic Studies and African Studies.

Majors in studio art must meet the college and university general education requirements. A foreign language is not required. Studio art courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis. A total of 123 hours is required for graduation. Studio art courses do not fulfill the humanities general education requirement.

Degree Requirements

Bachelor of Arts in Art History
Art history majors must complete a minimum of 36, but no more than 45, hours in art history. The following courses are required:

5(1100), Introduction to Art
195(3395), Sophomore/Junior Seminar: The Methods of Art History
203(3303), Media and Technique in Art History
395(4495), Senior Art History Seminar

Students must take three lower-division courses from three of the following four categories:

Ancient and Medieval
111(2211), Art and Archaeology of the Ancient World
112(2212), Greek Art and Archaeology
113(2213), Roman Art and Archaeology
114(2214), Early Christian and Byzantine Art
125(2225), Medieval Art

Early Modern
135(2235), Italian and Northern European Renaissance Art
137(2237), Northern European Renaissance Art
138(2238), Italian Renaissance Art
140(2240), French Art and Architecture 1400-1715
145(2245), Baroque Art and Architecture

Modern and American
155(2255), Modern Art
158(2278), American Art
159(2279), American Architecture
165(2265), History of Photography
191(2281), Art Since 1945
263(2267), Photography Since 1945

Non-European
8(1108), Survey of Asian Art
15(1102), Art of Africa, Oceania, and the Americas
107(1109), Chinese Art
108(1110), Japanese Art
116(1104), North American Indian Art
117(1105), African Art
119(1103), Pre-Columbian Art

Students must take four upper-division courses. Two of these courses should be chosen from the following list:

205(3391), Advanced Issues and Ideas in Art History
274(3374), Philosophy of Art
275(3375), The Art of the Print
276(3376), Women and the Visual Arts
285(3385), Studies in Architectural History
294(3394), Art Criticism
295(3365), The Artist and the City
296(3396), The Nude in Art
297(3397), Landscape Perspectives in Art
298(3398), The Portrait

The remaining two upper-division courses must be chosen from two of the following four categories:

Ancient and Medieval
212(4411), Topics in Ancient Art
225(4425), Topics in Medieval Art

Early Modern
235(4435), Topics in Renaissance Art
245(4445), Topics in Baroque Art

Modern and American
255(4455), Topics in Modern European Art
258(4475), Topics in American Art
265(4465), Topics in Photographic Studies
291(4481), Topics in Contemporary Art

Non-European
208(4408), Topics in Asian Art
215(4402), Topics in Tribal Art
217(4405) Topics in African Art

Students must also take one course in studio art. Up to nine hours in studio art may be applied toward the B.A. in art history. Art 134(1134), Art Activities for Elementary Schools, does not fulfill this requirement.
To complete the 36-45 hours for the degree, art history majors may take additional courses from those previously noted or any of the following:

- 65(1165), Photography and Society
- 105(2291), Issues and Ideas in Art History
- 179(2295), Special Topics in Art History
- 287(3387), Professional Internship
- 288(3388), UM-St. Louis-Saint Louis Art Museum Internship
- 289(3389), Visual Resource Management
- 290/390(3390/4490), Special Study
- 292(3392), Museum Studies
- 293(3393), Art Gallery Management

Note: Art history majors who began in the program before 1991 have their choice of completing the major under the old requirements or the new. Consult with your advisor for details.

**Bachelor of Fine Arts in Studio Art**

Candidates for the B.F.A. degree must complete a Foundation Art Program (which is largely satisfied by the A.F.A. degree) and an emphasis area in one of the following: drawing, graphic design, painting, photography, printmaking or general fine arts. An art education emphasis may be taken in combination with one of the studio art emphasis areas. Studio art majors are required to take 75 hours in studio art (this includes 30 hours in the foundation art program) and 15 hours in Art History. Art 134(1134), Art Activities for Elementary Schools, cannot be applied toward this degree. The final 24 hours must be completed in residence at UM-St. Louis. Graduating students must also pass a faculty portfolio review.

Advanced Placement in Studio Art Classes: Studio Art Majors who have professional Graphic Design or Photographic experience may wish to submit a portfolio review to a committee of studio art faculty. Depending on the nature and the quality of the student's portfolio, they may be able to obtain exemptions from selected lower level division studio art courses. Students applying for these exemptions must submit their portfolios prior to the first day of class of their first semester at the University. A handout detailing the submission procedures and requirements can be obtained from the Studio Arts office. Students will be notified in writing if an exemption is granted. Students informed of these waivers will be advised of their requirements in the studio art major. All decisions of the portfolio reviews are final. No credit is granted for classes that have been waived.

**Foundation Art Program**

The following courses are required for the Foundation Art Program:

- 40(1140), Drawing I
- 42(1142), Figure Drawing I

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**College of Fine Arts and Communication**

**Department of Art and Art History**

50(1150), Design I
140(1141), Drawing II
150(1151), Design II
240(2240), Drawing III or
142(1143), Figure Drawing II*
250(2250), Composition
9 hours of Studio Art Electives

*Those planning an emphasis in drawing or painting must take Art 142(1142).

Students must complete 45 hours in one of the following emphasis areas:

**Drawing**

- 240(2240), Drawing III
- 242(2243), Figure Drawing III
- 340(2241), Drawing IV
- 342(2243), Figure Drawing IV
- 350(2251), Design III
- 387(3340), Advanced Problems in Drawing I
- 388(3341), Advanced Problems in Drawing II
- 396(4495/4496), Senior Studio Seminar (6 hours)
- 6 hours of Painting or Printmaking
- 12 hours of Studio Art Electives

**Graphic Design**

Note: Enrollment in upper level graphic design courses beginning with Graphic Design III is limited to students who have been admitted to candidacy for the Bachelor of Fine Arts with Graphic Design emphasis

- 210(1210), Graphic Design I
- 211(1220), Graphic Design II
- 220(2220), Computer Art I or Studio Art Elective
- 221(2221), Computer Art II or Studio Art Elective
- 310(3310), Graphic Design III
- 311(3311), Graphic Design IV
- 312(3312), Special Techniques in Illustration and Graphic Design or Studio Art Elective
- 383(3383), Advanced Problems in Graphic Design I
- 384(3384), Advanced Problems in Graphic Design II
- 389(3389), Graphic Design Studio or Studio Art Elective
- 397(4497), Senior Seminar in Graphic Design I
- 398(4498), Senior Seminar in Graphic Design II
- 9 hours of Studio Art Electives

**Painting**

- 180(1180), Painting I
- 280(2280), Painting II
- 350(2251), Design III
- 380(2280), Painting III
- 381(2281), Painting IV
- 385(3380), Advanced Problems in Painting I
- 386(3381), Advanced Problems in Painting II
- 396(4495/4496), Senior Studio Seminar (6 hours)
- 6 hours from the following list:
  - 240(2240), Drawing I
  - 242(2243), Figure Drawing III
  - 340(2240), Drawing IV
  - 342(2243), Figure Drawing IV
12 hours of Studio Art Electives

**Photography**
- 260(3363), Digital Photography II
- 261(2262), Color Photography I
- 350(2251), Design III
- 360(3260), Photography III
- 361(3362), Color Photography II
- 391(3391), Advanced Problems in Photography I
- 392(3392), Advanced Problems in Photography II
- 396(4495/4496), Senior Studio Seminar (6 hours)

12 hours of Studio Art Electives
6 hours of Photography electives

**Printmaking**
- 270(1170), Printmaking I
- 271(2271), Printmaking II
- 340(2241), Drawing IV
- 342(2243), Figure Drawing IV
- 350(2251), Design III
- 370(2274), Printmaking and Relief
- 393(3370), Advanced Problems in Printmaking I
- 394(3371), Advanced Problems in Printmaking II
- 396(4495/4496), Senior Studio Seminar (6 hours)

6 hours from the following list:
- 272(2272), Printmaking: Lithography I
- 273(1173), Printmaking: Screenprinting I
- 277(2277), Printmaking: Photolithography
- 372(3372), Advanced Lithography

9 hours of Studio Art Electives, including one course in photography

**General Fine Arts**
30 hours of studio art electives must be taken at the 200 level or above.

The following courses are required:
- 350(2251), Design III
- 396(4495/4496), Senior Studio Seminar (6 hours)

Select 6 hours from the following:
- 387(3340), Advanced Problems in Drawing I and
- 388(3341), Advanced Problems in Drawing II or,
- 385(3380), Advanced Problems in Painting I and
- 386(3381), Advanced Problems in Painting II or,
- 391(3391), Advanced Problems in Photography I and
- 392(3392), Advanced Problems in Photography II or,
- 393(3370), Advanced Problems in Printmaking I and
- 394(3371), Advanced Problems in Printmaking II

Students must complete 15 hours of Art History, with at least 9 hours taken in residence at UM-St. Louis.

Students choosing a double major in two studio art emphasis areas must complete all the requirements for each emphasis area. If the double major includes Graphic Design, students must take four semesters of Senior Studio Seminar. This includes Art 397(4497), Art 398(4498), Art 396a(4495), and Art 396b(4496).

**Minors**

**Minor in Art History**
A minor in art history requires the completion of at least 18 hours in art history courses. Students must take Art 5 and at least one course in non-Western art. They must also take at least 2 courses at the 300-level or above. A maximum of 3 hours of internship can be applied toward a minor in art history. The GPA for the courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis.

**Minor in Studio Art**
Students who wish to minor in studio art must take a minimum of 18 hours with a grade point average of 2.0 or better. The requirements for the minor are as follows:

- 40(1140), Drawing I
- 140(1141), Drawing II
- 50(1150), Design I

and two consecutive courses (6 hours) in any single area to be selected from the following (students should be aware that courses are not always available in all areas):
- Painting
- Printmaking (any one subfield)
- Photography
- Graphic Design
- Advanced Drawing

plus a studio art elective: one three-hour course.

**Photographic Studies Certificate**
UM-St. Louis students, graduates, and post-baccalaureate candidates may obtain a certificate in photographic studies by coordinating courses in and related to photography. To be eligible for the certificate, undergraduates must complete a degree in a chosen major field. A faculty member of the Interdisciplinary Photographic Studies Committee will act as adviser to all students and will consult with the faculty adviser in the student's major to plan appropriate credits.

The Photographic Studies Certificate is the only such program in the country and should be of special interest to those considering a career in the arts, communications, history, science, business, or advertising, or in photography itself. The program should also interest professional photographers, teachers, interested lay people, and graduates who are returning to school. This certificate is designed for all who have an intense interest in the myriad aesthetic and practical aspects of the medium.

**Requirements**
The following courses are required:
- Art 60(1060), Photography I
- Art 160(2160), Photography II
- Art 165(2265), History of Photography
- Interdisciplinary 65(1165)/Art 65(1165), Photography and Society
- Art 360(3260), Photography III, or
Interdisciplinary 390, Independent Studies in Photographic Studies

Students must also take at least one 3-hour course selected from the following departmental offerings. New courses will be reviewed periodically for inclusion:

Art 5(1100), Introduction to Art
Art 161(2263), Introduction to Digital Photography
Art 261(2262), Color Photography I
Art 262(2264), Non-Silver Photography
Art 263(2265), Photography Since 1945
Art 264(2264), Video Art I
Art 274(3374), Philosophy 274(3374), Philosophy of Art
Art 277(2277), Printmaking: Photolithography
Art 360(3260), Photography III
Art 361(3362), Color Photography II
Art 364(3364), Video Art II
Art 390(3390), Special Studies
Art 391(3391), Advanced Problems in Photography I
Art 392(3392), Advanced Problems in Photography II
Biological 360(4784), Techniques in Electron Microscopy
Comm. 50(1050), Introduction to Mass Media
Comm. 70(1070), Introduction to Cinema
Comm. 210(2210), Television Production
English 214/Comm 214(3140/3214), News Writing
English 215(3150), Feature Writing
Interdisciplinary 40, The Black World
Interdisciplinary 365, Seminar in Photographic Studies
Interdisciplinary 390, Independent Studies in Photographic Studies
Psych 213(2213), Principles of Perception

Pre-Professional Graduation: Architecture
The Department of Art sponsors the 3+4 Program for the School of Architecture at Washington University. A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:

1) The student has completed all general education requirements and all requirements for a major and lacks only the total hours (electives) necessary for a degree.

2) A student who has not completed required courses for a degree must remedy the deficiency with courses taken at the University of Missouri-St. Louis within three years of entering the professional school. At the time of graduation the student must remain in good standing in the professional school or have successfully graduated from the professional school.

3) A student who has not completed all the courses required for a major may, if the major department at UM-St. Louis agrees, substitute up to six hours of appropriate course work from the professional school.

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The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure.

Career Outlook

Study in art history broadens and enriches a general education, offering insight into the visual, architectural, and cultural artifacts left by earlier, as well as modern, civilizations. Art history graduates have found career opportunities in teaching, museums, galleries, libraries, historical societies, sales and auction houses, and historic preservation, and as travel guides, art administrators, and editors and in art restoration.

Students with degrees in studio art find careers in teaching, advertising, public relations, graphic design, illustration, film and video production, art administration, art restoration, product and industrial design, framing, and commercial photography.
Course Descriptions

Courses in this section are grouped as follows: Art History and Studio Art. Prerequisites may be waived by consent of instructor. For the nonmajor, any number of studio courses will be accepted as electives.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin:

ART HISTORY 5(1100) 8(1108), 15(1102), 65(1165), 105(2291), 107(1109), 108(1110), 111(2211), 112(2212), 113(2213), 114(2214), 116(1104), 117(1105), 119(1103), 125(2225), 135(2235), 137(2237), 138(2238), 140(2240), 145(2245), 155(2255), 158(2278), 159(2279), 165(2265), 179(2295), 191(2281), 195(3395), 203(3303), 205(3391), 208(4408), 212(4411), 215(4402), 217(4405), 225(4425), 235(4435), 245(4445), 255(4455), 258(4475), 263(2267), 265(4465), 274(3374), 275(3375), 276(3376), 285(3385), 290(3390), 291(4481), 292(3392), 293(3393), 294(3394), 295(3365), 296(3396), 297(3397), 298(3398), 390(4490), 395(4495).

The following courses meet the Cultural Diversity requirement: ART HISTORY 8(1108), 15(1102), 107(1109), 108(1110), 116(1104), 117(1105), 119(1103), 208(4408), 215(4402), and 217(4405).

Art History

5(1100) Introduction to Art (3) [H]
An introduction to major historical movements in Western art.

8(1108) Introduction to Asian Art (3) [H, CD]
A survey of the major achievements in architecture, sculpture, and painting of India, China, Japan and Southeast Asia. Emphasis on religious, historical, and social context of the arts.

15(1102) Art of Africa, Oceania, and the Americas (3) [CD]
A survey of the art of tribal people of Africa, Oceania, and the Americas from prehistoric times through the present. The relationship of art to religion, myth, festival, and social life will be considered, as well as the effects of acculturation on the arts.

65(1165) Photography and Society (3)
(Same as Interdisciplinary 65(1165).) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art. This course counts toward the major.

105(2291) Issues and Ideas in Art History (3)
Prerequisite: Art 5(1100) or permission of instructor.
Intensive studies of a few selected works from various eras and cultures, with special attention to the particular social and cultural factors surrounding their creation. May be repeated for credit with change of topic and permission of adviser.

107(1109) The Arts of China (3) [CD]
A survey of the major achievements in the history of Chinese art. Bronzes, sculpture, painting, calligraphy, ceramics, and jades will be considered within their historical, philosophical, and social context.

108(1110) The Arts of Japan (3) [CD]
A survey of the art and architecture of Japan from prehistory to the present. Topics will include sculpture, architecture, pottery, gardens, Japanese prints and paintings in their various forms, i.e. Chinese style, purely Japanese style, narrative scrolls, Zen, and Rimpa.

111(2211) Art and Archaeology of the Ancient World (3) [H]
Prerequisite: Art 5(1100). A survey of art in Egypt, the Ancient Near East, Greece, and Rome, beginning in the Neolithic era (8000-4000 BC) and ending with the Barbarian invasions of Italy in the fifth century A.D. The major highlights of architecture and city planning, sculpture, painting, pottery, and the minor arts will be covered.

112(2212) Greek Art and Archaeology (3)
Prerequisite: Art 5(1100). General survey of material culture in the Aegean basin, beginning with the Bronze Age (third millennium BC) and terminating in the late Hellenistic period (second century BC). For the Hellenistic period the course will trace Greek developments and influences outside of the Aegean, for example, in Italy and in Egypt.

113(2213) Roman Art and Archaeology (3)
Prerequisite: Art 5(1100). General survey of material culture in Italy and its dependencies beginning with prehistoric Italy (ninth and eighth centuries B.C.) and terminating in late antiquity (the fifth century A.D.). The course will focus on the regional variants of Roman art in such places as Gaul, Spain, Great Britain, North Africa, and the Greco-Roman East.

114(2214) Early Christian and Byzantine Art (3)
Prerequisite: Art 5(1100). Survey of the development of Christian imagery during the Late Antique period, the Constantinian epoch, the development of the early Byzantine style during the sixth century, and later innovations in style and subject matter in later Byzantine art until AD 1453.
116(1104) North American Indian Art (3) [CD]
A detailed survey of the arts of North America from prehistoric times to the present. Cultures to be covered include: Mound builders, Northeast, Navajo, Pueblo peoples, Northwest Coast, and Eskimo. The relationship of art to religion, dance, philosophy, and social life will be explored.

117(1105) African Art (3) [H, CD]
A survey of the major achievements in painting, sculpture, and architecture of the continent of Africa, with an emphasis upon the religious and social contexts of the arts.

119(1103) Pre-Columbian Art of Mexico and Central America (3) [CD]
A survey of the arts of native peoples of Middle America before the coming of the Spaniards in 1519. The cultural context and meaning of sculpture, painting, architecture, and ritual among the Olmec, Maya, Aztec, and other tribes.

125(2225) Medieval Art (3)
Prerequisite: Art 5(1100). A survey of the art and architecture of the Mediterranean World and northern Europe from late antiquity to the Late Gothic period (300-1300 A.D.). Focus on new styles and subject matter in painting, sculpture, and architecture.

135(2235) Italian and Northern European Renaissance Art (3) [H]
Prerequisite: Art 5(1100) or permission of instructor. An introduction to selected artworks, artists and patrons in Italy and Northern Europe throughout the fifteenth and sixteenth centuries, beginning with Ghiberti and Van Eyck and ending with Michelangelo and Brughel.

137(2237) Northern European Renaissance Art (3)
Prerequisite: Art 5 (1100). A review of Flemish, so called Franco-Flemish, and German paintings, illuminations, and prints during the fifteenth and sixteenth centuries, before and after Luther.

138(2238) Italian Renaissance Art (3)
Prerequisite: Art 5 (1100). The study of sculpture, paintings, and architecture in Florence, Rome, and Venice during the fourteenth, fifteenth, and sixteenth centuries as reflections of cultural, religious, philosophical, and political beliefs.

140(2240) French Art and Architecture 1400-1715 (3)
Prerequisite: Art 5(1100) or permission of the instructor. A survey of art and architecture in France from the late medieval period to the late baroque. Topics will include the development of French chateaux and gardens, the rise of the Academy, and the influence of royal patronage on the arts.

145(2245) Baroque Art and Architecture (3)
Prerequisite: Art 5(1100) or permission of the instructor. A survey of the major paintings, statues, buildings, and their influence upon the religious and social contexts of the arts.

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artists and patrons in seventeenth-century Italy, France, Flanders, Holland, and Spain. Special attention will be given to the study of the city of Rome.

155(2255) Modern European Art (3) [H]
Prerequisite: Art 5(1100) A survey of European art of the nineteenth and twentieth centuries.

158(2278) American Art (3)
Prerequisite: Art 5(1100). An overview of the major developments of painting, sculpture and the decorative arts in the United States since 1600. Emphasis on the contributions of individual artists and the changing cultural contexts in which they worked.

159(2279) American Architecture (3)
Prerequisite: Art 5(1100) or consent of the instructor. A brief history and analysis of American architecture, investigations of technological process, urban planning, and the dominating social attitudes which govern architectural development.

165(2265) History of Photography (3)
Prerequisite: Art 5 (1100) or consent of instructor. A study of photography: its historical development, an examination of it as an art medium, and its influence on the development of modern art.

179(2295) Special Topics in Art History (1-3)
Prerequisite: Art 5 (1100) or consent of instructor. Selected topics in art history. This course may be repeated for credit.

191(2281) Art since 1945 (3)
Prerequisite: Art 5(1100) or consent of the instructor. An overview of the major developments in European and American art since World War II. Topics include abstract expressionism, pop art, Conceptual and minimal art, performance and video.

195(3395) Sophomore/Junior Seminar: The Methods of Art History (3)
Prerequisites: Art 5(1100) and nine additional hours in art history. An introduction to the methods of art historical analysis. Emphasis on research techniques and writing. This course must be taken before a student's senior year.

203(3305) Media and Technique in Art History (3)
Prerequisite: Art 5 (1100), and two other courses in art history. Technical demonstration and research into various materials and media used by artists. In addition to ancient media such as egg tempera and fresco, it will include modern media such as photography and video.
Advanced Issues and Ideas in Art History (3)
Prerequisites: Art 5 (1100) and three additional courses in art history, or permission of the instructor. Seminar format. Intensive study of a few objects or issues in the history of art, focusing on issues which crosscut periods or geographic regions.

Topics in Asian Art (3) [CD]
Prerequisite: Art 8(1108) or permission of instructor. A study of selected topics in Asian art. The content will vary, focusing on topics such as Chinese and Japanese landscape in paintings and in gardens, images of women in Asian art, or the Spirit of the Brush in Chinese and Japanese painting. May be repeated for credit with permission of instructor and adviser.

Topics in Ancient Art and Archaeology (3)
Prerequisites: Art 5(1100) or Interdisciplinary 10 and one of the following: Art 111(2211), 112(2212), 113(2213), 114(2214), or permission of instructor. Intensive study of some aspect of Classical or Early Christian art. Content will vary. May be repeated for credit with permission of adviser.

Topics in Tribal Arts (3) [CD]
(Same as Anthropology 225(1025)) Prerequisite: One of the following: Art 15(1102), 116(1104), 117(1105), 119(1103), or permission of instructor. Intensive study of the arts of several tribal groups. Inquiry into relationships between art and culture by means of an examination of myth, literature, festival, and social life. Seminar format. May be repeated for credit with permission of adviser.

Topics in African Art (3) [CD]
Prerequisite: Art 15(1102) or 117(1105) or permission of instructor. A study of selected topics in the history of African art. The content of the course will vary, focusing upon a single topic, which might include Islam and the arts of Africa, Christianity and the arts of Nubia and Ethiopia, art and festival in West Africa, or women and art in sub-Saharan Africa. May be repeated for credit with permission of instructor.

Topics in Medieval Art (3)
Prerequisite: Art 125 (2225) or consent of instructor. A study of selected topics in Medieval art. The content of the course will vary, focusing on single topics such as manuscript painting, the Gothic cathedral and its sculptural decoration, or the art of pilgrimage churches. May be repeated for credit with permission of instructor.

Topics in Renaissance Art (3)
Prerequisite: Art 135(2235), 137(2237) or 138(2238) or consent of instructor. Studies of selected topics, which will vary. Subjects to be considered may include the art of Florence, the role of patronage in Renaissance Italy, and Papal art. May be repeated for credit.

Topics in Seventeenth and Eighteenth-Century European Art (3)
Prerequisite: Art 145(2245) or consent of instructor. A study of selected topics in Baroque and Rococo art. The content of the course will vary, focusing on single areas, such as the Baroque in Rome; or on major artists, such as Bernini, Rubens, and Rembrandt. May be repeated for credit with permission of instructor and adviser.

Topics in Modern European Art (3)
Prerequisite: Art 155 (2255) or consent of instructor. Intensive study of selected topics in European art. May be repeated for credit with permission of instructor and adviser.

Topics in American Art (3)
Prerequisite: Art 158(2278) or 159(2279) or consent of instructor. Intensive study of selected topics in American art from colonial beginnings to the present. Topics may include the image of the family in art, patronage, the relationship between art and literature, and the role of the artist in modern society. May be repeated for credit with permission of instructor and adviser.

Photography since 1945 (3)
Prerequisites: Art 5(1100) and either Art 65(1165) or 165(2265) or permission of instructor. Seminar on creative photography from postwar period to present. Topics include relation of this medium to other arts, including sculptural and performance art, as well as current modes of photographic depiction in landscape and studio work.

Topics in Photographic Studies (3)
(Same as Interdisciplinary 265(4465). Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

Philosophy of Art (3)
(Same as Philosophy 274(3374)) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

The Art of Print (3)
Prerequisite: Art 5(1100) or consent of the instructor. Dealing with the history of print forms: woodcuts, etchings, engravings, lithographs, silk-screen, monotypes, and mixed media. Special emphasis will be given to the importance of prints to the art and artists of our time.

Women and the Visual Arts (3)
Prerequisite: Art 5(1100) or enrollment in the Women's Studies Certificate Program recommended. Selected topics concerning women as creators, users, and subject matter of art. Great women artists in the Western world will be studied, as well as women weavers, potters, and sculptors in tribal society.
285(3385) Studies in Architectural History (3)
Prerequisite: Art 5(1100) or consent of instructor. A study of selected topics in architectural history. The content of the course will vary, and the course may be repeated for credit with permission of the instructor and departmental adviser. Possible topics include the history of the castle, factory architecture, the evolution of the Gothic cathedral, and domestic and vernacular architecture.

287(3387) Professional Internship (1-6)
Prerequisites: Junior/Senior standing in art history or studio art and consent of faculty adviser. The internship provides experience in museums, historical societies, galleries, design firms, or visual resource collections. Students will assist in the diverse duties associated with the day-to-day functions of the institution, under the joint direction of a faculty adviser and a supervisor at the institution. Course requirements may include readings, research assignments, and/or a paper. This course may be counted for art history or studio art credit with the department's consent.

288(3388) UM-St. Louis/Saint Louis Art Museum Internship (3)
Prerequisites: Art History or Anthropology major, junior/senior standing, and consent of faculty adviser. Student, selected competitively after submitting application to the UM-St. Louis/St. Louis Art Museum Internship Committee, completes 20 hours of work per week under direction of a curator or curators at the Saint Louis Art Museum. The precise schedule and particular projects are to be determined by the curator and the student together. Projects can include research on the Museum collection, research on possible Museum acquisitions, checking label information, research or compilation of bibliography for exhibitions, or other tasks at the discretion of the curator. Each internship runs for the duration of one semester.

289(3339) Visual Resources Management (3)
Prerequisites: Art 5(1100) and 3 credit hours in other art history courses, or permission of instructor. This hands-on course in the art department's slide library will consist of the daily operation and management of, as well as technological and theoretical approaches to visual resource collections. The course content relies upon the Art Department's slide library of over 80,000 slides, videotapes, and other visual materials.

290(3390) Special Study (1-10)
Prerequisites: Junior or senior standing and consent of department and instructor. Independent study through readings, reports, or field research.

291(4491) Topics in Contemporary Art (3)
Prerequisites: Art 5(1100) and Art 191(4481) or permission of instructor. Seminar on particular topics in European or American art since 1945. Topics may include contemporary feminist art, postmodernism, or abstract expressionism. May be repeated for credit with permission of instructor and adviser.

292(4492) Museum Studies (3)
Prerequisites: Art 5(1100) and 6 credit hours in other art history courses. This course is intended as an introduction to the function and operation of the art museum. Sessions will include the history of art museums and collecting policies; the organization of art museums; the tasks of the curator; the registration practices; art conservation; the museum as an educational institution; the organization and planning of permanent galleries; and the planning and installation of temporary exhibitions.

293(3393) Art Gallery Management (3)
Prerequisites: Art 5(1100) and 6 credit hours in other art history courses. This course will consider the practical application of professional training in art history as it applies to gallery management. Topics covered will include: grant writing in the arts, the development of art exhibits, the role of the art curator, and the operation of a gallery. All students will get hands-on experience in Gallery 210.

294(3394) Art Criticism (3)
Prerequisite: Art 155(2255) or Art 191(2281) or permission of instructor. An overview of the history and function of art criticism, focusing principally on the theory and criticism of twentieth-century art. Students will attempt their own critical writings on contemporary art.

295(3365) The Artist and the City (3)
Prerequisite: Art 5(1100). Examines the role of urban centers as a focus for significant artistic activity, as a recurring theme in art, and as a spatial and physical architectural reality. Aspects of urban planning, urban imagery in art, and the social, political, and personal networks artists develop as a result of living in particular urban centers at particular moments in history will be among the topics discussed.

296(3396) The Nude in Art (3)
Prerequisites: Art 5(1100) and one other course in art history. An exploration of the various meanings of nudity in art. The cultural, social, and psychological contexts of nudity in art will be examined in different historical periods and geographic regions, both Western and non-Western. Representations of both males and females will be analyzed in terms of gender construction, political authority, and personal identity.

297(3397) Landscape Perspectives in Art (3)
Prerequisite: Art 5(1100). This seminar considers the various conventions for representing landscape and nature, and human relationships to landscape, throughout history and across cultures. Issues to be considered may include landscape as metaphor in European painting, contemporary earthworks, landscape photography, and the relationship of artist to landscape in the non-Western world.
298(3398) The Portrait (3)
Prerequisite: Art 5(1100) or permission of instructor. An examination of portraiture in its social, economic and political contexts. Group and individual portraits will be analyzed in terms of gender construction, social status, family history and personal and public identity throughout selected periods of Western and non-Western culture.

390(4490) Special Study (1-10)
Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research.

395(4495) Senior Art History Seminar (3)
Prerequisite: Art 195(3395), English 210(3100) and senior standing in art history or consent of instructor. Intensive reading, discussion, and writing on topics to be announced.

435(6035) Foundations of Museology I (3)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Anthropology 435(6035) and History 435(6035).) Concepts for understanding museums in their social and cultural context; history of museums; museology and general social theory; information transfer vs. Meaning-making models; museums and communities; the changing role of museums; museums as complex organizations; process models of museology.

436(6036) Foundations of Museology II (3)
Prerequisite: Art 435(6035) and consent of Director of Museum Studies Program. (Same as Anthropology 436(6036) and History 436(6036).) Audience-centered approaches to museology; visitor research and learning theory; philosophical and practical considerations in museum planning; the physical design of museums; creativity; exhibit and program development; collections and curation; the challenge of diversity; the future of museums.

437(6037) Effective Action in Museums (3)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Anthropology 437(6037) and History 437(6037).) The nature of the work done in museums; how museums are organized to accomplish this work; professional roles and practices; technology and resources used by museums, skills for creative and effective leadership in project management and administration in museums; planning, flow charting, budgeting, team dynamics, and related skills. The course will include several site visits to area museums and guest lectures by a variety of museum professionals.

438(6038) Museum Studies Master's Project (4)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Anthropology 438(6038) and History 438(6038).) Research and writing/exhibit development on a selected topic.

458(5578) Topics in American Art (3)
Prerequisite: Graduate standing and consent of instructor. This course examines a discrete aspect of the history of American art within the changing social, cultural and historical contexts of Euro-American and/or Native American experiences and traditions.

488(5588) Museum Education and Visitor Research (3)
Prerequisite: Consent of Director of Museum Studies Program. Development and operation of museum educational programs: learning theory; program design; relationships with exhibit development; programming for children and adults. Visitor research: theoretical foundations; research design; field experience; impact on programming and strategic planning.

492(5592) The History of the Visual Arts in American Museums (3)
Prerequisite: Graduate standing and consent of instructor. This course is an introduction to selected topics in the history of museology, focusing on art and anthropology museums as sites for the interpretations of art and culture, and as contested meeting grounds for various views of history and culture.

**Studio Art**

2(1002) Introduction to Studio Art (3)
An introduction to drawing, painting, and design in a beginning studio environment. This course is designed to provide basic skills and understanding of studio experience for the non-art major. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

30(1030) Ceramics I (3)
An introduction to basic methods and theory of ceramics including work with hand-built construction, wheel techniques, and glazing. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

40(1140) Drawing I (3)
An introduction to drawing through the study of figure, object, and environment. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

42(1142) Figure Drawing I (3)
Basic studies of the human form and anatomy from the model in a variety of drawing media. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.
50(1150) Design I (3)
Studio problems in the creative use and integration of the elements of two-dimensional design: line, form, space, texture. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

60(1060) Photography I (3)
An introduction to the techniques and aesthetics of black and white photography, the camera and the darkroom. Students must provide a camera with adjustable speeds and aperture. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

74(1074) Special Topics in Studio Art (1-3)
Selected topics in studio studies. This course may be repeated for credit. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

80(1080) Comics and Cartoon Illustration (3)
A course in creating and appreciating the world of comics and cartoons. This course will investigate the tools and techniques for creating cartoons, cartoon illustrations and the world of comics. Students will create their own cartoons with traditional media and also with computers. While designed for beginners, experienced artists will be encouraged to perfect their personal styles. The class will create and print its own comic book. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

130(1130) Ceramics II (3)
Prerequisite: Art 30(1030). A continuation of Art 30(1030). Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

132(1132) Sculpture I (3)
An introduction to traditional and contemporary materials, aesthetics, and theories of three-dimensional art. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

133(1133) Introduction to Fibers and Textiles (3)
Prerequisites: Art 50 (1150). Exploration of a variety of on- and off-loom weaving and other fiber and textile media and techniques. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

134(1134) Art Activities for Elementary Schools (3)
(Same as Ele Ed 179(2179)) A study of art principles and laboratory experiences with various media and materials. Stresses curriculum planning and development of the elementary school program in art. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

140(1141) Drawing II (3)
Prerequisite: Art 40(1140). The development of drawing skills through continued observation and problems of invention. A further exploration of varied drawing materials and techniques including graphite, charcoal, conte crayon, and inks. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

142(1143) Figure Drawing II (3)
Prerequisite: Art 42(1142). Continuation of Figure Drawing I. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

150(1151) Design II (3)
Prerequisite: Art 50(1150). A continuation of Art 50(1150), two-dimensional design, with introduction to color theory. Some application of mixed media problems. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

160(2160) Photography II (3)
Prerequisite: Art 60(1060). Continuation of Photography I at the intermediate level. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

161(2263) Introduction to Digital Photography (3)
Prerequisite: Art 60(1060) or consent of instructor. An introduction to computer usage in photography. The basic computer techniques and software applications for digitizing, retouching, enhancing and altering photographic images will comprise the core of this course. This class will involve both learning exercises and the creation of original computer-aided photographic art. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

180(1180) Painting I (3)
Prerequisite: Art 40(1140), Art 50(1150) or consent of instructor. An introduction to the use of oil and/or acrylic painting media. Studio problems to develop technical and expressive skills on various surfaces. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

210(1210) Graphic Design I (3)
Introductory studio problems in layout, lettering, and design with typographic elements. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.
Continuation of Graphic Design I (3)
Prerequisite: Art 210(1220), Art 50(1150) and Art 40(1140). Continuation of Graphic Design I. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Computer Art I (3)
Prerequisite: Art 50(1150). An introduction to the use of computer graphics software for the creation of artwork applicable to the advertising and graphic design industry. No previous computer experience is necessary. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Computer Art II (3)
Prerequisite: Art 220(2220). Designed to familiarize students with the methods and processes and computer functions used in graphic art and illustrations. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Sculpture II (3)
Prerequisite: Art 132(1132). Continuation of Sculpture I. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Drawing III (3)
Prerequisites: Art 40(1140) and Art 140(1141). This course offers studio problems designed to further the development of drawing skills in various media. Limited color will also be introduced. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Figure Drawing III (3)
Prerequisites: Art 42(1142) and Art 142(1151). Advanced study of the human form and anatomy from the model in a variety of drawing media. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Composition (3)
Prerequisites: Art 50(1150) and Art 150(1151). An investigation of the use of formal design elements as used in historic and contemporary art. Weekly studio problems and discussions will concentrate on skills, application, and unifying effects of compositional elements on a variety of visual art forms. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Digital Photography II (3)
Prerequisite: Art 161(2263). Intermediate exploration of the aesthetics and techniques of digital photography. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Color Photography I (3)
Prerequisite: Art 60(1060) or equivalent. An introduction to the techniques and aesthetics of color photography. Mastering the printing and finishing processes and producing a color print portfolio will be the requirements of this class. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Non-Silver Photography (3)
Prerequisites: Art 60(1060) and Art 160(2160). An introduction to the aesthetics and techniques of non-traditional photographic processes. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Commercial Applications in Photography
Prerequisites: Art 160(2160) and permission of adviser. Exploration of issues and applications in commercial photographic production. Topics will vary. Course may be repeated for credit with permission of adviser. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Video Art I (3)
Prerequisite: Art 160(2160) or permission of instructor. An introduction to video as an art form. Knowledge of contemporary uses and video techniques will be stressed. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Printmaking I (3)
Prerequisite: Art 50(1150) and Art 140(1141) or consent of instructor. An introduction to printmaking techniques, materials, and theories. The course will include work in a variety of print materials. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Printmaking II (3)
Prerequisite: Art 270(1170) or consent of instructor. A continuation of Printmaking I. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

Printmaking: Lithography I (3)
Prerequisite: Art 50(1150) and Art 140(1141) or consent of instructor. An introduction to printmaking skills and theory in stone and plate lithography. Studio problems in the use of materials and equipment. Attention will be given to individual development. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.
273(1173) Printmaking: Screen-printing I (3)
Prerequisite: Art 270(1170). An introduction into the techniques, methods, and aesthetics of screen-printing. Studio problems involving uses and approaches will be emphasized. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

277(2277) Printmaking: Photolithography I (3)
Prerequisite: Art 60(1060) or departmental consent. An introduction to printmaking skills and theory in stone and plate lithography with particular emphasis on the photographic applications of the process. Some attention will also be given to commercial printmaking applications while studio problems in the use of materials and equipment will be stressed. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

280(2280) Painting II (3)
Prerequisite: Art 180(1180) or consent of instructor. Continuation of basic studio problems in painting media. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

283(2283) Watercolor Painting (3)
Prerequisites: Art 50(1150) and Art 140(1141). Beginning problems in watercolor painting. Includes the study of traditional and contemporary approaches to color, color techniques, and treatment of papers. May be repeated for credit. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

290(2290) Special Study (1-10)
Prerequisites: Junior/Senior standing and consent of department and instructor. Independent study through readings, reports or field research. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

310(3310) Graphic Design III (3)
Prerequisites: Art 211(1220). Advanced studio problems to further the understanding of design and its relationship to typographic elements, illustration, and communication. The course will encourage both conceptual and technical development of the designer. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

311(3311) Graphic Design IV (3)
Prerequisite: Art 310(3310). Further studio problems in the graphic arts. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

312(3312) Special Topics in Illustration and Graphic Design (3)
Prerequisite: Art 311(3311) or consent of instructor. Illustration and graphic design techniques as diverse as cartooning, Web page design, multi-media animation, and interactive kiosk design (among others) are explored in this class. Each semester, one or more of these specialties are offered. Emphasis is placed on the practical applications of these approaches as well as the production of a strong student portfolio that will demonstrate the mastery of these skills.

334(3334) Contemporary Art Education: Craft and Theory (3)
Prerequisite: Upper-division standing or consent of instructor. Intensive study for advanced students and art teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

340(2241) Drawing IV (3)
Prerequisite: Art 240(2240). Studio problems with emphasis on color and multi-material approach to drawing. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

342(2243) Figure Drawing IV (3)
Prerequisite: Art 242(2243). Continuation of Figure Drawing III. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

350(2251) Design III (3)
Prerequisites: Art 50(1150) and Art 150(1151). Advanced studio problems in design materials. Use of two-dimensional and three-dimensional mixed media. Experimental use of materials and media will be introduced. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

360(3260) Photography III (3)
Prerequisite: Art 160(2160). An exploration into contemporary theories and trends in photography. Advanced projects, portfolios and techniques will be expected from those enrolled. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

361(3362) Color Photography II (3)
Prerequisite: Art 261(2262). An advanced exploration into the aesthetics and techniques of color photography. Students will be expected to refine their vision utilizing color processes. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.
363(3363) Special Topics in Photography
Prerequisite: Art 160(2160): Photography II and permission of adviser. Selected topics in photographic practice. May be repeated for credit with permission of adviser. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

364(3364) Video Art II (3)
Prerequisite: Art 264(2264). An advanced exploration of video as a visual art. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

370(2274) Printmaking and Relief (3)
Prerequisites: Art 270 (1170) and Art 271(2271). Advanced problems in printmaking. Problems in relief printmaking. Work in wood and mixed materials. Development of skills and aesthetic judgments in the media. May be repeated for credit with consent of instructor. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

372(3372) Advanced Lithography (3)
Prerequisites: Art 273(1173). Continuing problems in lithography with problems in black and white, photolithography, and/or color. May be repeated for credit. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

380(2280) Painting III (3)
Prerequisite: Art 280 (2280) or consent of instructor. Advanced studio problems in painting media. Attention paid to individual development of theory, expression, and technique. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

381(2281) Painting IV (3)
Prerequisite: Art 380(2280). A continuation of Painting III. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

383(3383) Advanced Problems in Graphic Design I (3)
Prerequisite: Art 311(3311). This course is focused on professional-level art and portfolio production. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

384(3384) Advanced Problems in Graphic Design II (3)
Prerequisite: Art 383(3383). A continuation of Art 383(3383). Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

385(3380) Advanced Problems in Painting I (3)
Prerequisite: Art 381(2281) course is focused on professional-level art and portfolio production. Non-traditional materials might be explored. Attention is focused on individual development of painting theory, self-expression, and advanced techniques. The student is expected to assume a substantial responsibility with regard to direction, motivation, and content. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

386(3381) Advanced Problems in Painting II (3)
Prerequisite: Art 385(3380). A continuation of portfolio production in Art 385(3380). Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

387(3340) Advanced Problems in Drawing I (3)
Prerequisite: Art 340(2241). This course is focused on professional-level art and portfolio production. It offers studio problems designed to further the development of drawing skills. Emphasis will be given to the study of drawing as an independent art form. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

388(3341) Advanced Problems in Drawing II (3)
Prerequisite: Art 387(3340). A continuation of Art 387(3340). Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

389(4389) Graphic Design Studio (3)
Prerequisite: Art 384(3384) or consent of instructor. Students will work on actual client projects in a studio setting from creative concept through client presentation. Studies will include client interviews, project planning, studio operations, project budget and estimating, vendor selection, prepress preparation, working in creative groups and professional presentations.

390(3390) Special Study (1-10)
Prerequisites: Junior/senior standing and consent of department. Independent study through readings, reports, or field research. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

391(3391) Advanced Problems in Photography I (3)
Prerequisite: Art 360(3260). This course is focused on professional-level art and portfolio production. Students may employ black and white, color, non-silver or other traditional or non-traditional press for projects in this course. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.
392(3392) Advanced Problems in Photography II (3)  
Prerequisite: Art 391(3391). A continuation of Art 391(3391). Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

393(3370) Advanced Problems in Printmaking I (3)  
Prerequisite: Art 370(2274). This course is focused upon professional-level art and portfolio production. After completion of this and the preceding course, students should be ready to meet the artistic and intellectual demands of today's visual art world. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

394(3371) Advanced Problems in Printmaking II (3)  
Prerequisites: Art 393(3370). A continuation of Art 393(3370). Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

396a(4495) Senior Studio Seminar (3)  
Prerequisites: Senior standing and Art 386(3381), 388(3341), 392(3392) or 394(3371). Weekly critiques and discussions of technical and professional issues. Will instruct students in methods of portfolio display, documentation, gallery representation, grant writing, and professional preparation. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies. Offered only during fall semester.

396b(4496) Senior Studio Seminar (3)  
Prerequisites: Senior standing and Art 396a(4495). Weekly critiques and discussions of technical and professional issues. Will instruct students in methods of portfolio display, documentation, gallery representation, grant writing, and professional preparation. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies. Offered only during winter semester.

397(4497) Senior Seminar in Graphic Design I (3)  
Prerequisite: Senior standing and Art 384(3384). Weekly critiques and discussions of technical and professional issues. Will instruct students in the methods of professional preparation. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

398(4498) Senior Seminar in Graphic Design II (3)  
Prerequisite: Art 397(4497). Continuation of Art 397(4497). Will instruct students in the methods of professional preparation. Lab fee required. Basic studio equipment will be provided through students will need to supply some personal equipment and supplies.
Department of Communication

Faculty

Michael Beatty, Professor*; Chairperson
Ph.D., Ohio State University

Thomas McPhail, Professor*
Ph.D., Purdue University

Michael Murray, Curators' Distinguished Teaching Professor
Ph.D., University of Missouri-Columbia

Donald Shields, Professor Emeritus
Ph.D., University of Minnesota

Rita Csapo-Sweet, Associate Professor
Ed.D., Harvard University

James Fay, Associate Professor*
M.F.A., Tulane University

Elizabeth Kizer, Associate Professor Emerita.
Ph.D., Purdue University

Alice E. Hall, Assistant Professor
Ph.D., University of Pennsylvania

Alan D. Heisel, Assistant Professor
Ed.D., West Virginia University

Betty H. LaFrance, Assistant Professor
Ph.D., Michigan State University

C. Thomas Preston, Associate Professor*
Ph.D., University of Nebraska-Lincoln

Leighanne Heisel, Lecturer
M.A., West Virginia University

Clark McMillion, Lecturer
M.A., State University College of New York at Brockport

Sidney Savan, Lecturer
B.S., Washington University

*members of Graduate Faculty

The faculty represents many fields within the discipline of communication including interpersonal communication, organizational communication, mass communication, and rhetoric in addition to related disciplines such as film and media history, media production, and public relations. Most faculty members contribute to the continued growth of the knowledge base, publishing the results of their research in scholarly journals and presenting papers at national and international professional conferences. Other faculty members engage in creative activities. By integrating theory, research, and practice, the faculty is able to offer a comprehensive approach to contemporary communication problems.

General Information

The Bachelor of Arts in Communication

The B.A. in communication is a flexible degree program that allows the student to emphasize a particular field of study (communication theory and rhetoric, or mass communication) or tailor a specific concentration to meet the student's individual needs and interests. An emphasis in communication theory or mass communication is recommended for students with clear career goals in one of these areas. The communication major is recommended for students interested in teacher certification, the bachelor of general studies degree in the Evening College, or in specific interdisciplinary fields such as public relations/advertising/organizational communication, information science, electronic journalism, television, media administration, and marketing communication. The faculty encourages all students to meet early and often with their faculty advisor to select a meaningful group of courses for a coherent, career-oriented academic program.

Minors and Certificates for Communication

The department actively supports the following minor and certificate programs open to students majoring in communication: Minor in Public Affairs Journalism, Minor in Photographic Studies, Minor in Legal Studies, Certificate in Writing, and Certificate in Secondary Education. For more information, see Certificate Programs and Interdisciplinary Studies in this Bulletin.

Master of Arts in Communication

The master of arts program, a collaborative effort between UM-St. Louis and UM-Kansas City, provides the opportunity for an advanced degree program in communication with emphasis in organizational and mass communication. For further details, please see the Graduate Studies section of the Communication Department listings.

Undergraduate Studies

General Education Requirements

 Majors must satisfy the university and college general education requirements. The college's foreign language requirement may be taken in any language. Communication courses may not be taken on a satisfactory/unsatisfactory basis.

Course Emphasis Categories

Courses offered by the communication department are categorized below. Students will need to refer to this list in choosing courses to meet the requirements of their particular emphasis area.

Communication Theory and Rhetoric Area Courses

30(1030), Interpersonal Communication I
40(1040), Introduction to Public Speaking
41(1041), Basic Public Debate
65(1065), Introduction to Information Technology
108(1108), Advertising Copywriting
130(1130), Interpersonal Communication II
135(1135), Communication Theory
140(1140), Advanced Public Speaking
141(1141), Business and Professional Speaking
143(1143), Parliamentary Procedure
150(1150), Introduction to Public Relations
228(2228), Public Relations Writing
Degree Requirements

Bachelor of Arts in Communication

Majors must complete a minimum of 36, but not more than 45, hours in communication courses. At least 18 of these hours must be taken at UM-St. Louis. Each major must take at least 6 hours of communication courses numbered 200-299 and at least 6 hours of communication courses numbered 300-399. Every major must complete the requirements for an emphasis area as described below.

Emphasis Areas

Two emphasis areas are available: Communication theory and rhetoric and mass communication.

Required Courses for All Majors

40(1040), Introduction to Public Speaking
135(1135), Communication Theory
193(1193), 194(1194), 196(1196), 197(1197), 198(1198) (at least 3 hours of Practicum courses), or
393(3393), 394(3394), 396(3396), 397(3397) (at least 3 hours of Internship courses).

Emphasis Area Requirements

In addition to the above required course work, majors must complete the requirements specified below for one of the following emphasis areas:

I Communication Theory and Rhetoric

In addition to the required courses for all majors, students must take the following:

a. 230(2230), Small Group Communication
b. Twelve additional hours in Communication Theory and Rhetoric
c. One of the following Mass Communication courses: 50(1050), Introduction to Mass Media
70(1070), Introduction to Cinema
110(1110), Introduction to Radio and Television Broadcasting
d. Plus 9-18 hours from any area or areas in the communication department.

II Mass Communication

In addition to the required courses for all majors, students must take the following:

a. 50(1050), Introduction to Mass Media
70(1070), Introduction to Cinema
110(1110), Introduction to Radio and Television Broadcasting
b. Nine additional hours in mass communication
c. Plus 9-18 hours from any area or areas in the communication department.
Bachelor of Arts in Communication with Certification in Secondary Education
In addition to the requirements for the B.A. in communication and general requirements set by the College of Education, students must meet the state requirements for certification. The B.A. and certification for grades 7-12 can be completed by taking a minimum of 39 hours in communication, selected according to departmental recommendations. The B.A. and certification for grades 7-9 can be obtained by taking 36 hours in communication, selected according to departmental recommendations.

Requirements of the College of Education include courses in professional education and English 262(3600), The Curriculum and Methods of Teaching English (same as SEC ED 232(3600).

Departmental Activities, Laboratories, and Internships
Cocurricular projects and activities relevant to student interests and vocational plans are sponsored and advised by the department (debate and forensic, television club). In addition to the traditional classroom experience, students receive practical training in the department’s laboratory facility: the Lucas Hall video laboratory.

Internships at radio and television stations, community agencies, newspapers, and public relations, marketing, and advertising firms, and a variety of business organizations provide valuable opportunities for majors to apply their communication studies.

Minors in Communication
Students with majors other than communication may select from two minors to complement their academic and career goals.

The following conditions apply to all minors:
Credit hours in Communication 195(1195), and/or Communication 395(3395), may be substituted for credit hours listed below with written consent of the communication department chairperson.

At least 9 of the 18 hours required for the minor must be taken at UM-St. Louis.

A minimum GPA of 2.5 is required in the minor.

I Requirements for a minor in Communication Theory and Rhetoric are as follows:

a. 40(1040), Introduction to Public Speaking
135(1135) Communication Theory

b. One of the following Communication Theory and Rhetoric courses:
30(1030), Interpersonal Communication I
140(1140), Advanced Public Speaking
141(1141), Business and Professional Speaking

c. Plus nine hours from courses in Communication Theory and Rhetoric at the 200 level or above.

II Requirements for a minor in Mass Communication are as follows:

a. 50(1050), Introduction to Mass Media
110(1110), Introduction to Radio and Television Broadcasting

b. One of the following Mass Communication courses:
70(1070), Introduction to Cinema
350(3350), Mass Communication History and Criticism

c. Plus nine hours in Mass Communication courses at the 200 level or above.

Graduate Studies
The department offers the Master of Arts degree in communication.

Admission requirements:
Applicants must have a baccalaureate in communication or a related discipline by the end of the semester in which they apply. In addition, the minimum GPA for regular admission to the graduate program in communication is 2.75 on a 4-point scale. Three letters or recommendation, at least two of which address the applicant's potential to succeed in graduate studies in communication are required. International students must obtain a TOEFL score of at least 600 to be considered for admission.

Master of Arts in Communication

Degree Requirements:
Candidates for the M.A. degree will complete a minimum of 30 semester hours of approved study, at least 21 of which must be taken in courses offered by the department. Video courses from UM-Kansas City taken while in residence at Um-St. Louis may count toward this 21 hour minimum. A minimum of 18 hours must be taken at the 400 level, in addition to the hours taken for the thesis or internship/paper. Of this 18 hours of 400 level courses, 15 hours must be the specific core courses noted as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>400(6400)</td>
<td>Seminar in Communication Theory</td>
</tr>
<tr>
<td>405(6405)</td>
<td>Introduction to Communication Research Methods</td>
</tr>
<tr>
<td>411(6411)</td>
<td>Seminar in Mass Communication</td>
</tr>
<tr>
<td>431(6431)</td>
<td>Seminar in Organizational Communication</td>
</tr>
<tr>
<td>435(6435)</td>
<td>Seminar in Advanced Applied Communication Research</td>
</tr>
</tbody>
</table>

Communication 400(6400), Seminar in Communication Theory
405(6405), Introduction to Communication Research Methods
411(6411), Seminar in Mass Communication
431(6431), Seminar in Organizational Communication
435(6435), Seminar in Advanced Applied Communication Research

Students complete one of the following exit projects: No less than a 6-hour thesis or a 6-hour internship. After consultation with the graduate coordinator and with input from prospective exit project committee members, the student selects the appropriate exit project. The internship option requires submission of an essay in which the
coursework and internship experience are integrated. Internship essay and thesis must be approved by student's committees and assigned a grade by the adviser. The candidate must pass an oral examination conducted by student's committee regardless of exit option selected.

Career Outlook
The B.A. in communication prepares students for careers in numerous fields. Past graduates are working in the following positions: radio and television news, promotion and public relations, administration, directing, announcing, production, and sports journalism; media management; public relations, advertising, marketing, Web page design, market research, corporate media, sales, training, speech writing, print editing, journalism, teaching, and research. Other students have pursued graduate education in communication programs across North America offering the M.A. and Ph.D. degrees.
Course Descriptions

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin:

70(1070), 160(1160), 271(2271), 272(2272), 337(3337), 340(3340), 341(3341), 342(3342), 343(3343), 344(3344), 350(3350), 352(3352).

The following courses fulfill the Social Sciences breadth of study requirements: 65(1065), 135(1135), 218(2218), 230(2230), 231(2231), 243(2243), 330(3330), 331(3331), 332(3332), 333(3333), 335(4335), 350(3350), 354(3354), 356(4356).

30(1030) Interpersonal Communication I (3) [C]
Development of basic one-to-one communication skills. Includes self-awareness, listening, nonverbal communication, feedback, roleplaying, and receiver awareness.

40(1040) Introduction to Public Speaking (3) [C]
Theories and techniques of organization, evidence, argumentation, persuasion, and delivery in public speaking.

41(1041) Basic Public Debate (3)
History and practice of debate in the public arena, with opportunities to prepare for a variety of public forums for argumentation. Various debate formats, including panel discussions, joint news conferences, and audience-participation debates, in a variety of settings, will be surveyed.

50(1050) Introduction to Mass Media (3) [C,SS]
Introduction to oral, print, and electronic media of communication. Emphasis on history, theory, and criticism of the mass media as cultural institutions.

65(1065) Introduction to Information Technology (3)
The production and consumption of information by individuals, the work place and society. Emphasis on the changing nature of communication processes as a result of the expansion of communication technologies.

70(1070) Introduction to Cinema (3)
An introduction to the history, rhetoric, and aesthetics of film. Film theory and criticism will be studied as well as major genres, authors, and artists.

108(1108) Advertising Copywriting (3)
(Same as English 108(2080).) To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting.

110(1110) Introduction to Radio and Television Broadcasting (3)
An introduction to broadcasting, including the areas of history, government regulations, station operation, and program development.

113(1113) Basic Television Studio Production (3)
Study of basic television studio production techniques and practices. The class will provide the student with practical experience in studio camera operating, directing, producing, switching, audio mixing and lighting. Lab arranged.

114(1114) Radio Production I (3)
Prerequisite: Comm 110(1110). Theory and practice in the creation of radio programs. Laboratory experience included.

118(1118) Radio and Television Announcing (3)
Prerequisite: Comm 110(1110); 114(1114), and 210(2210) recommended. Training in radio and television studio procedures. Production and criticism of lab programs, including news, continuity, interviews, and oral improvisation. Classroom meetings at the radio lab and the television lab, plus lab hours to be arranged.

130(1130) Interpersonal Communication II (3)
Prerequisite: Comm 30(1030). Interpersonal communication in relationships within group contexts, such as family, classroom, and business. Various theories and diagnostic approaches to interpersonal communication. Extensive laboratory sessions utilizing individual and group exercises.

135(1135) Communication Theory (3)
Survey of elements and processes critical to human communication behavior. Comparison of influential communication theories.

140(1140) Advanced Public Speaking (3)
Prerequisite: Comm 40(1040). Application of advanced public speaking skills, with emphasis on special occasion speaking situations.

141(1141) Business and Professional Speaking (3)
Prerequisite: Comm 40(1040). Application of communication skills in the business and professional environment with emphasis on presentational speaking, organizational constructs germane to professional careers, and uses of various media.

143(1143) Parliamentary Procedure (2)
Prerequisite: Comm 40(1040). Study and practice in rules of procedure by which self-governing groups transact business.
150(1150) Introduction to Public Relations (3)  
Prerequisite: Comm 40(1040) or 50(1050). Publicity methods and public relations representation of profit and nonprofit institutions to the public; use of communication research and media, as applied to the public relations profession.

160(1160) Fundamentals of Oral Interpretation (3)  
Prerequisite: Comm 40(1040) or consent of instructor. An introduction to the analysis of literature and to the principles of its oral presentation by the interpreter.

193(1193) Practicum in Applied Communication (1-3)  
Prerequisite: Consent of instructor. Practicum work at any of the UM-St. Louis public relations offices, sports and school newspapers, Office of Research or Photography Services. Work must be done on campus, under supervision of a working professional in the field, in consultation with a faculty member.

194(1194) Practicum in Debate/Forensics (1-3)  
Prerequisite: Consent of instructor. Practical work in the University debate and forensics program, supervised by a faculty member. Repeatable, but no more than 6 credit hours may be earned in departmental practicum courses.

195(1195) Seminar in Communication (3)  
Prerequisite: Consent of instructor. In-depth study of topics pertaining to current research in the department or otherwise of timely interest to students or faculty.

196(1196) Practicum in Radio (1-3)  
Prerequisites: Comm 110(1110) and consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at the campus radio station, supervised by a faculty member. Repeatable, but no more than 6 credit hours may be earned in departmental practicum courses.

197(1197) Practicum in Television/Film (1-3)  
Prerequisites: Comm 110(1110) and consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at one of the campus television studios or for the UM-St. Louis Television/Film Club, supervised by a faculty member. Repeatable, but no more than 6 credit hours may be earned in departmental practicum courses.

210(2210) Television Production I (3)  
Prerequisites: Comm 110(1110) or consent of instructor. A study of the basic theories and practices of remote television production. The areas of producing and directing in the field will be studied. The class will provide the student with practical experience in remote camera operation and basic editing techniques. Lab arranged.

212(2212) Broadcast Writing and Reporting (3)  
Prerequisites: Comm 110(1110) and 214(3214) or English 214(3140), or consent of instructor. Elementary principles and practice of writing for radio and television in varied program formats, emphasis on preparation of written materials for news and public affairs presentation. Lecture and lab.

214(3214) News Writing (3)  
(Same as English 214(3140). Prerequisite: English 10(1100) or equivalent. An introduction to news writing and reporting. Course covers basic components of news reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed.

215(2215) Radio Production II (3)  
Prerequisite: Comm 114(1114). Study of advanced theories and techniques of audio production, building on principles and skills learned in Radio Production I. Exploration of complex program formats such as radio drama and special problems such as those encountered in recording live music.

216(2216) Radio News (3)  
Prerequisite: Comm 114(1114). Theory and laboratory practice in the gathering, writing, and delivery of news through radio. Lab hours to be arranged.

217(2217) Script Writing for Business and Industry (3)  
Prerequisites: Comm 210(2210) and 212(2212). Script writing for training, motivation, education, and other applications. Students will identify and discuss communication problems and solutions in live, slide/tape, video, and film script formats.

218(2218) Public Policy in Telecommunication (3)  
Prerequisite: Comm 65(1065) or 110(1110) or consent of instructor. An examination of the structure and operation of domestic, international, commercial and public telecommunication. Regulatory agencies, both private and public, will be considered in terms of their effect on programming and ownership.

219(2219) Promotion, Publicity, and Advertising in Broadcasting (3)  
Prerequisite: Comm 110(1110). Introduction to theory and practice in the planning, execution, and evaluation of persuasive campaigns involving radio and television. Emphasis on concept developments and production elements. Discussion of broadcast ethics.

228(2228) Public Relations Writing (3)  
(Same as English 228(3280). Prerequisite: English 214(3140) or equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals.
230(2230) Small Group Communication (3)
Prerequisite: Comm 40(1040). Development of communication skills needed in small group decision making. Application of these skills to contemporary problems.

231(2231) Communication in the Organization (3)
Prerequisite: Junior standing or consent of instructor. Course integrates communication theories applicable to the structure and function of organizations. The effect of communication variables on departmental interface, member satisfaction and motivation, leadership and subordinate styles, and perception of the organization by the external environment.

232(2232) Effective Communication in the Organization: Tool for Leadership (3)
Prerequisite: Junior standing or consent of instructor. Telecourse designed to equip students with communication skills applicable to the organizational context. The course will present effective strategies for the articulation of ideas, with particular emphasis on the development of leadership skills.

240(2240) Persuasive Communication (3)
Prerequisite: Comm 40(1040). A study of persuasive communication, including theories, techniques, forms, functions, applications, potential, and limitations for the individual and organizations. Insights from both classical rhetoric and contemporary communication theory.

241(2241) Argumentation and Debate (3)
Prerequisite: Comm 40(1040), or 41(1041), or consent of instructor. Principles of argumentation and debate with practice in preparing briefs and in delivering spoken arguments in formal debate. Emphasis on analysis of issues, logical reasoning, and audience analysis.

243(2243) Communication in American Politics (3)
Prerequisite: Comm 40(1040). Analysis of audience response and media preferences in political campaigns, campaign speeches, candidates' uses of television and other mass media, and measuring effectiveness of campaign communications.

271(2271) History of Film to World War II (3)
Prerequisite: Comm 70(1070) or consent of instructor. History of world cinema from the late nineteenth century to the 1940s.

272(2272) History of Film Since World War II (3)
Prerequisite: Comm 70(1070) or consent of instructor. History of world cinema from the 1940s to the present day.

310(3310) Television Production II (3)

311(3311) Broadcast Management (3)
Prerequisite: Comm 110(1110). Introduction to theories of management, with application to radio and television station operations. Discussion of economic, legal, and ethical problems and issues.

313(3313) Advanced Video Editing (3)
Prerequisite: Six (6) hours of television production. Study of advanced editing techniques. Exposure to nonlinear formats. Animation and advanced graphics development. Exploration of state of the art editing formats. Lab arranged.

316(3316) Television News (3)
Prerequisite: Comm 210(2110). Theory and laboratory practice in the gathering, writing, and delivery of news through television. Lab arranged.

317(3317) Radio and the Recording Industry (3)
Prerequisite: Junior standing. Historical development and current status of the recording industry, particularly as it interacts with the broadcast industry. Impact of radio and recording technology on the development of rock and other popular music.

330(3330) Empirical Research in Communication (3)
Prerequisite: Comm 135(1135). Introduction to the fundamental tools of quantitative research in communication, including data analysis, statistical design and methods, basic measurement concepts and designs for empirical research.

331(3331) Research Methods in Communication (3)
Prerequisite: Comm 135(1135). Introductory study of research designs and methodologies employed in communication, including historical, critical, and empirical methods. Review of research reports which exemplify these methods.

332(3332) Intercultural Communication (3)
Prerequisite: Junior standing or consent of the instructor. Study of culture as a variable in both interpersonal and collective communicative situations. Emphasis upon opportunities and problems arising from similarities or differences in communication patterns, processes, and codes among various cultural groups.

333(3333) Communication Audit (3)
Prerequisite: Comm 231(2231). The application of specific empirical research designs to evaluate communication flows, effectiveness, or channels in complex organizations.

334(3334) Advertising Media Planning (3)
Prerequisite: Comm 50(1050). A hands-on study of how to determine an advertising budget, select media and develop a strategic plan.
335(3335) Seminar in Applied Communication Research (3)
Prerequisites: Comm 135(1135) and consent of instructor.
This course explores the use of communication concepts, theories, methods, and designs in applied field settings with an emphasis on original research.

336(3336) Communication in Advertising (3)
Prerequisites: Comm 50(1050) and junior standing, or consent of instructor. Overview of components in persuasive messages and how advertising messages and campaigns use various media to reach target audiences.

337(3340) Male/Female Communication (3)
Prerequisite: Junior standing or consent of instructor. This course explores the influence of gender upon contemporary American communication behavior. Topics include semantic and syntactic variations in male and female speech, gender-role development as process and product of communication, analysis of communication patterns and barriers within gender groups. Mass, public, interpersonal, and dyadic communication contexts are considered.

340(3340) Rhetorical Criticism (3)
Prerequisite: Comm 40(1040). The application of rhetorical theories to the analytical and critical explanation of persuasive messages.

341(3341) Classical Rhetoric and Public Address (3)
Prerequisite: Comm 40(1040) or consent of instructor. A survey of the history and theories of persuasion and public address from ancient times to the Renaissance.

342(3342) Modern Rhetoric and Public Address (3)
Prerequisite: Comm 40(1040) or consent of instructor. A survey of the history and theories of persuasion and public address from the post-Renaissance era to the present.

343(3343) The Rhetoric of Protest (3)
Prerequisite: Comm 40(1040). An examination of the persuasive messages and tactics used in social movements and their campaigns.

344(3344) Advanced Argumentation Theory (3)
Prerequisite: Comm 241(2241) or consent of instructor. This course focuses on advanced argumentation theory. It is aimed at providing an advanced understanding of the complex issues faced by argumentation scholars.

345(3345) Theory and Practice of Interviewing (3)
Prerequisite: Comm 40(1040) and junior standing, or consent of instructor. The application of modern communication theory to interview situations. This theory and practicum course is designed to aid the student in mastering specific skills appropriate to specialized settings.

346(3346) Advanced Interviewing Techniques (3)
Prerequisite: Comm 345(3345). Examination and application of problem solving and information-gathering methods, with emphasis on specialized situations such as journalistic, health, crisis intervention, and counseling; superior-subordinate relationships and employment. In-class study approach and field interview assignments.

350(3350) Mass Communication History (3)
Prerequisite: Comm 50(1050) or 110(1110). Examination of the social, economic, and political factors contributing to the development of American mass media. Emphasis on significant personalities who helped shape its course; analysis of select critical works.

352(3352) Mass Media Criticism (3)
Prerequisite: Comm 50(1050) or 60(1060). The study of media content and its effect on society. Reading and viewing of selected works. Independent reading and critical analysis required.

354(3354) Comparative Telecommunication Systems (3)
Prerequisite: Comm 65(1065) or consent of instructor. Historical aspects of various systems of telecommunication throughout the world. Examination of American, Canadian, European Community (EC), and other telecommunication systems.

355(3355) Media Law and Regulation (3)
Prerequisite: Comm 50(1050) or 110(1110). Discussion of laws affecting the mass media. Exploration of problems and issues in legal regulation of media content, ownership, access, and accountability. Discussion of industry self-regulation and the influence of citizens' organizations.

356(4356) International Communication (3)
Prerequisite: Comm 50(1050) or 110(1110). Examination of the social, technical, economic, and political factors affecting international broadcasting and transnational media systems.

357(4357) Media Ethics (3)
Prerequisite: nine hours of philosophy or nine hours communication or consent of instructor. (Same as Philosophy 357(4457)). This course is concerned with some of the issues that arise from the intersection of ethics and modern media communications. Attention is given to some of the more specific concerns of media ethics, such as truth, honesty, fairness, objectivity and bias; personal privacy and the public interest; advertising; conflicts of interest; censorship and offensive or dangerous content (pornography, violence). Particular attention will be given to problems posed by the development of personal computer communications through bulletin boards, on-line services, and the Internet.
358 Communication in Public Relations (3)
Prerequisite: Comm 150(1150). An overview of communication within the area of public relations. Emphasis on ethics, law, professional standards, and written communication. Case study approach.

360 Health Communication (3)
Prerequisite: Comm 030(1030), 040(1040), or 050(1050) or consent of instructor. An analysis of the role communication plays in influencing the health care environment. The course consists of two parts. The first part examines public health care prevention campaigns, e.g., anti-smoking, as well as focusing on the environmental problems, including communication strategies utilizing various media alternatives. The second part focuses on interpersonal and small group communication practices within health-care settings. Consideration of verbal and nonverbal communication research will be explored.

362 Storytelling (1-3)
Prerequisite: Junior standing or consent of instructor. This course gives an overview of the history of storytelling, types of tales, and appropriate uses for storytelling. The primary emphasis of the course is in developing storytelling skills through preparation, performances, and evaluation.

370 Documentary Film (3)
Prerequisite: Comm 70(1070). Consideration of the history, theory, and criticism of nonfiction film. Screening of representative documentary films.

390 Directed Readings (3)
Prerequisites: Consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised independent study involving readings, conferences, papers, etc., in one of the department's disciplines: communication theory and rhetoric, or mass communication.

391 Supervised Research (1-5)
Prerequisites: Junior/senior standing and consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised field or laboratory research, data collection, literature searches, qualitative or quantitative data analysis, report writing and other techniques used by communication researchers. Repeatable, but no more than 5 credit hours may be earned in supervised research courses.

392 Administration of Cocurricular Activities (3)
Prerequisites: Junior standing and consent of instructor. A survey of the skills required to administer the various cocurricular activities associated with teachers in the secondary schools, such as: operation of debate tournaments, public speaking competitions, and mass media centers.

393 Internship in Applied Communication (3-6)
Prerequisites: Senior standing, with a least 12 hours of course work in communication theory and rhetoric; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Advanced practical work in business communication, political campaign communication, advertising, public relations, or other forms of organizational or public communication. Work must be done off campus, under supervision of a working professional in the field, in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

394 Internship in Journalism (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in journalism, mass communication, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work with an off-campus newspaper, magazine, or other news organization, supervised by a journalism professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

395 Senior Seminar in Communication (3)
Prerequisite: Senior standing and consent of instructor. This course will deal with basic issues, questions, theories and themes central to the discipline of communication. The course project will consist of a critique of selected communication literature and permit the student to integrate and synthesize the knowledge base accumulated in the systematic study of communication.

396 Internship in Radio (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in radio, broadcasting, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at an off-campus radio station, supervised by a professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.
397(3397) Internship in Television/Film (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in television, film, video, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at an off-campus television, film, or video organization, supervised by a television, film, or video professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

400(6400) Seminar in Communication Theory (3)
Prerequisites: Graduate Standing. Examination of the theoretical, methodological, and philosophy of science issues in the discipline of communication. Examines general, micro, contextual, and interdisciplinary (symbiotic) communication theories. Required of all graduate communication students. (Core Course.)

405(6405) Introduction to Communication Research Methods (3)
Prerequisites: Graduate Standing. Concerns the logic of scientific inquiry including the discovery, counting, and analysis of material, social, and symbolic facts, and reviews research methods guided by general, micro and contextual communication theories. Provides an orientation to graduate research including proposal development for thesis, internship and paper requirements and includes a theory-based research project of the student's choice. Required of all graduate communication students. (Core Course.)

406(6406) Introduction to Communication Education Research (3)
Prerequisites: Graduate Standing. The development of educational communication research as a social scientific field. Critical evaluation of techniques and problem selection. Emphasis on the function of communication education concept formation and theory.

411(6411) Seminar in Mass Communication (3)
Examines communication research literature pertaining to media planning, content, and effects. A broad range of media forms and possible effects are considered.

431(6431) Seminar in Organizational Communication (3)
Prerequisites: Graduate Standing. Explores communication theories and topics related to organizational, institutional, and social system contexts and reviews the communication literature on behavior in organizations. Emphasizes a case study approach to the communication strategies used by agencies and corporations. (Core course.)

435(6435) Seminar in Advanced Applied Communication (3)
Prerequisites: Graduate Standing. Examines the logic and forms of communication inquiry in solving client-centered problems. Topics include audience ratings and segmentation, targeting, applied and basic research paradigms and approaches to grounding theory. Reviews the use of research by agencies, campaigns and organizations. Includes a team research project. (Core Course.)

445(6445) Seminar in Advanced Organizational Communication (3)
Prerequisite: Com 431(6431). Extends exploration of communication in organizations covered in Com 431(6431) to more advanced quantitative models of organizational communication. Focuses on quantitative studies published in communication research literature.

454(6454) Seminar in Communication Systems and Technologies (3)
Prerequisites: Graduate Standing. Examines innovation in modern communications technologies, their impact on society, and their contribution to the information revolution.

490(6490) Directed Readings in Communication (1-10)
Prerequisites: Graduate Standing. Individual research on a problem defined by the graduate student and the faculty member in conference. May be repeated once with the consent of the departmental graduate faculty.

495(6495) Seminar in Special Topics in Communication (3-9)
Prerequisites: Graduate Standing. Selected topics in the study of communication. Review of the communication theory and methods appropriate to the topic. The course includes a research project. May be repeated if the topic is different.

498(6498) Thesis Research and Preparation (1-10)
Prerequisites: Graduate standing. Individual research for and preparation of the graduate thesis.

499(6499) Graduate Internship (3-6)
Prerequisites: Graduate standing and approval of graduate coordinator. Individual on-site internship in organizational or mass communication setting. May be repeated.
Department of Music

Faculty

Leonard Ott, Associate Professor*, Chairperson
Ph.D., Michigan State University
John Hylton, Dean, College of Fine Arts and Communication, Professor*,
D.Ed., Penn State University
Gearoid O'hAllmhurain, Jefferson Smurfit Professor of Irish Studies (Social Anthropology, Ethnomusicology)
Ph.D., The Queen's University of Belfast
Douglas Turpin, E. Desmond Lee Professor of Music.
Education*
D.Ed., Washington University
Kenneth E. Miller, Professor Emeritus
Ph.D., Northwestern University
Evelyn Mitchell, Professor Emerita
Arnold Perris, Professor Emeritus
Ph.D., Northwestern University
Robert J. Ray, Professor*
B.M., Northwestern University
James Richards, Professor*
Ph.D., University of Rochester, Eastman School of Music
Diane Touliatos, Professor*
Ph.D., Ohio State University
Fred Willman, Professor*
Ph.D., University of North Dakota
Thomas Barrett, Visiting Professor (Voice)
B.M., Vocal Performance, Indiana University
Don N. Parker, Associate Professor
D.M.A., The University of Texas, Austin
William Richardson, Associate Professor*
Ph.D., University of Kansas
Karen Parthun, Assistant Professor*
D.M.A., Arizona State University
Kurt S. Baldwin, Arianna String Quartet, Artist-in-Residence
M.M., New England Conservatory of Music
Sheila Browne, Arianna String Quartet, Artist-in-Residence
M.M., Rice University
John McGrosso, Artist in Residence (Violin)
Performers' Certificate, Northern Illinois University
Rebecca Rhee, Artist in Residence (Violin)
M.A., Northern Illinois University
William Hammond, Affiliate Associate Professor (World Music/Music Appreciation, Theory/Aural Training, French Horn)
D.Ed. Boston University
Kathryn Haggans, Adjunct Associate Professor (Voice)
Ph.D., University of Arizona
Joan Whittemore, Adjunct Assistant Professor (Music History)
D.M.A., University of Illinois-Urbana/Champaign
Carol Koch, Senior Lecturer (Music Ed./Piano)
M.M.E., University of Missouri-St. Louis
Jeffrey Hoard, Lecturer (Tuba)
B.A., California State University
Ann Homann, Lecturer (Oboe)
M.M., St. Louis Conservatory of Music
Joseph Kaminsky, Lecturer (Viola)
M.M., Southern Illinois University-Edwardsville
Katharine Lawton-Brown, Lecturer, (Voice) Director, Premiere Performance Concert Series
M.M., James Madison University
Twila M. McDonell, Lecturer (Flute)
D.M., Northwestern University
Robert Mottl, Lecturer (Bassoon)**
M.M., Indiana University
Elke Overtont, Lecturer (Saxophone)
M.M., University of Cincinnati, Conservatory of Music
Maria Pinekney, Lecturer (Harp)
Alan Rosenkoetter, Lecturer (Guitar)
B.S., Washington University
Andrew Schwartz, Lecturer (Trumpet)
M.M., University of Missouri-Columbia
Robert Souza, Lecturer (Trumpet)
B.M.E., University of Missouri-St. Louis
Sue Stubbs, Lecturer (Double Bass)
M.M., University of Missouri-Columbia
John Walsh, Lecturer (Organ)
M.M., Washington University
Jeanne York-Garesche, Lecturer (Clarinet)
M.M., St. Louis Conservatory of Music
Milton Zoth, Lecturer (Directing)
MFA, Webster University
Rekha Dravina, Specialist (Piano)
M.M., Krasnoyarsk State Institute, Krasnoyarsk, Russia
Mieko Hironaka-Beret, Specialist (Piano)
M.M., Toho Academy of Music
Sandra Geary, Specialist (Piano)
B.M., St. Louis Conservatory of Music
Sharon Tash, Specialist (Piano)
B.A., University of Missouri-St. Louis
Susan Wells-Souza, Specialist (Piano)
M.M., Washington University
*members of graduate faculty
**member, St. Louis Symphony Orchestra

Music faculty members have received recognition for distinguished achievements in conducting, composition, and performance. The faculty is also recognized for research in musicology and music education. Part-time applied music lecturers are all professional musicians.

The music department is accredited by the National Association of Schools of Music.

General Information

Degrees and Areas of Concentration
The Department of Music offers programs of study leading to the B.M. degree in music education (and state teaching certification in grades K-12); the B.M. degree with an
emphasis in performance; the B.M. degree with elective studies in business; and the B.A. degree in music. Instruction in piano, organ, voice, and all band and orchestral instruments is given by full-time faculty and part-time professional musicians, many of who are members of the St. Louis Symphony Orchestra. Faculty recitals are regularly scheduled.

Music Minors Three minors in music are available: a minor in music; a minor in music education (choral/vocal, grades K-9); and a minor in jazz studies.

Facilities All of the department's facilities, classrooms, rehearsal rooms, studios, practice rooms, and listening labs are located in the Music Building.

Ensembles Seventeen performing ensembles are open to all by audition with credit optional:
- 40(1400), University Chorus
- 41a(1410), The University Singers
- 41b, University Chorale
- 42, Chamber Singers
- 50(1500), University Orchestra
- 52(1520), University Band
- 53(1530), University Wind Ensemble
- 54A(1541), Chamber Ensemble Brass
- 54B(1542), Jazz Combo
- 54C(1543), Chamber Ensemble Percussion
- 54D(1544), Chamber Ensemble Strings
- 54E(1545), Chamber Ensemble Voice
- 54F(1546), Chamber Ensemble Woodwind
- 54G(1547), Accompanying
- 55(1550), Jazz Ensemble
- 56(1560), Opera Workshop
- 356(1600), Advanced Opera Workshop

Each year about 40 recitals and concerts are presented.

Undergraduate Studies

General Education Requirements
General education requirements apply to all majors, except students in the B.M. with elective studies in business and B.M. in music education degree programs who are not required to take a foreign language. Courses required for degree programs may not be taken on a satisfactory/unsatisfactory basis. All music courses presented to meet degree requirements must be completed with a grade of C or better.

Students may complete any number of hours of applied music (private lesson) toward a degree. Non-music majors may complete no more than 8 hours in music-performing organizations Music 40(1400), University Chorus; 41A(1410), University Singers; 50(1500), University Orchestra; 52(1520), University Band, et seq. toward graduation, including credit transferred. Courses in applied music (private lessons and performing organizations) do not fulfill the humanities general education requirement.

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Department of Music

Department courses, which meet the non-Euro-American study requirement, are Music 9(1090), Non-Western Music I, and Music 10(1100), Non-Western Music II.

Degree Requirements

Admission to all music degree programs is by audition and interview to demonstrate musical aptitude and potential, moderate technical proficiency, and seriousness in selecting music as a four-year course of study. In addition to the applied music audition, examinations in music theory and music history must be taken. Students in applied music must pass a junior-standing examination to confirm their level of performance skills for enrollment in Music 244 A - T (3440 - 3459) or Music 254 A - T (4440 - 4459). This examination is usually taken at the same time as the applied music jury for the fourth semester of enrollment in Music 44 A - T (1440 - 1459).

Evidence of sound musicianship, a close acquaintance with an appropriate portion of musical literature, and the ability to bring it to actual performance are required for graduation in all music degree programs. Students in the bachelor of music-performance emphasis fulfill this requirement with junior and senior recitals. Those in all other degree programs must satisfy the requirement by participating in three regularly scheduled student recitals during the last two semesters of applied music study, or by performing for a special jury of faculty members. The faculty may invite students who are not in the bachelor of music-performance emphasis program to give public senior recitals with the recommendation of the applied music instructor.

Music majors are required to participate in an approved ensemble (Symphonic Band, University Singers, University Chorus, or Orchestra) and to study one applied area progressively each semester, and to attend pedagogy and literature seminars each semester of the degree program. (Music education majors are exempt from these requirements during the student teaching semester.) The following specific ensemble enrollments, depending upon the applied music area, are required:

Wind and percussion students—Symphonic Band; string students—University Orchestra; voice students—University Singers; keyboard and guitar students—any approved ensemble, but those in the bachelor of music in music education program must enroll in an ensemble compatible with the teaching certification they are pursuing. Instrumental students may be required to participate in additional ensembles to enhance their musical development.

Majors are required to appear in performance at the department's discretion and to attend a prescribed number of departmental recitals. Non-keyboard players are required to pass an exam in piano proficiency: Music 118(2180), Intermediate Piano Proficiency, or equivalent.
for instrumentalists, or Music 120(3290), Intermediate Piano Proficiency, or equivalent for vocalists.

The music department may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Core Curriculum
The following core courses are required for all music majors:

Music Theory
30A(1301), Theory of Music I
30B(1302), Aural Training I
31A(1311), Theory of Music II
31B(1312), Aural Training II
130A(2301), Theory of Music III
130B(2302), Aural Training III
131A(2311), Theory of Music IV
131B(2312), Aural Training IV
141(3410), Orchestration

Piano Proficiency
14(1140), Piano Proficiency
15(1150), Piano Proficiency
116(2160), Intermediate Piano Proficiency
118(2180), Intermediate Piano Proficiency

Music History and Literature
101(1010), History of Western Music I
102(1020), History of Western Music II
and at least one upper level history course 300(4000 - 4270).

Applied Music
44Z(1460), 244Z(3460), 254Z(4460), Seminar in Pedagogy and Literature

In addition to the core curriculum, students must fulfill the requirements for the specific degree program or emphasis area as listed below:

Bachelor of Arts in Music
In addition to the required core curriculum, candidates must complete the following:
151(2510), Conducting I
192(3920), Senior Research
09(1090), Non-Western Music I, or
10(1100), Non-Western Music II

Applied Area 8 credit hours of private lessons

Ensemble 4 hours maximum credit

Bachelor of Music in Music Education
In addition to the required core curriculum, candidates must complete the following:
Applied Area 7 credit hours

Practicum
151(2510), Conducting I
Instrumental Certification
25(1250), Brass Techniques
26(1260), Woodwind Techniques
27(1270), String Techniques
28(1280), Percussion Instrumental Techniques
152A(3521), Conducting II – Instrumental
161A(2610), Elementary School Instrumental Literature Laboratory
162A(3620), Junior – Senior High School Instrumental Literature Laboratory
268(3680), Curriculum and Methods of Teaching Instrumental Music I
270(3700), Curriculum and Methods of Teaching Instrumental Music II

Vocal Certification
125(1250), Singer's Diction: English, Italian and German
126(1260), Singer's Diction: Latin, French, and Spanish
25(1250), 26(1260), 27(1270), or 28(1280), Instrumental Techniques (2 credit hours required)
119(3190), Intermediate Piano Proficiency
120(3290), Intermediate Piano Proficiency
142(3420), Choral Arranging
143(3430), Instrumentation and Score
152B(3522), Conducting II – Choral
161B(2611), Elementary School Choral Literature Laboratory
162B(3621), Junior – Senior High School Choral Literature Laboratory
269(3690), Curriculum and Methods of Teaching Middle School/ Junior High School General Music
271(3710), Curriculum and Methods of Teaching Secondary Choral Music

For students whose applied area is not voice, the following course is also required:
124(1240), Intermediate Vocal Techniques or,
44T(1459), Applied Music (Voice) (2 credit hours)

Ensemble 4 hours maximum credit

Curriculum and Methods of Teaching
The following courses are required:
257(3570), Curriculum and Methods of Teaching Elementary School Music
267(3670), Philologic and Practical Foundations of the Secondary Music Education Curriculum

Proficiency Exam Students working toward certification in choral/vocal or instrumental music K-12 or K-9 are required to pass a proficiency examination before
admission to student teaching in music, usually before or during the sixth semester of their program.

Professional Education and Student Teaching

The following education courses are required:
ED FND 111(1111), The School in Contemporary Society
ED PSY 312(3312), The Psychology of Teaching and Learning
SEC ED 213(3213), Techniques of Secondary School Teaching
SEC ED 293(3293), Student Teaching in Music Education, K-6
SEC ED 294(3294), Student Teaching in Music Education, 7-12
SP ED 313(3313), The Psychology and Education of Exceptional Individuals
SEC ED 386(4391), Teaching Reading in Secondary School Content Area

Bachelor of Music with an Emphasis in Performance

In addition to the required core curriculum, candidates must complete the following:

311(3110), Analysis of Twentieth-Century Techniques
312(3120), Tonal Counterpoint
151(2510), Conducting I
152(3521 or 3522), Conducting II
192(3920), Senior Research
119(3190), Intermediate Piano Proficiency (voice majors only)
120(3290), Intermediate Piano Proficiency (voice majors only)
09(1090), Non-Western Music I, or 10(1100), Non-Western Music II
156(1560), Piano Pedagogy (Keyboard students only)

Music History and Literature
An additional upper level course is required 300(4000-4270).

Applied Area
12 credit hours of applied music, including 8 credit hours at the Music 254 A - T (4440-4459) level (junior and senior recitals required).

Students in Applied Music must pass a junior standing exam to confirm their level of performance skills for enrollment in Music 254 A - T (4440-4459).

Ensemble Participation required as follows:
Large Group 4 hours maximum credit
Chamber Ensemble/Accompanying 6 hours

Foreign Language Candidates pursuing this emphasis area with an applied area in voice must complete two semesters of one foreign language selected from French, German, or Italian 1 and Italian 2.

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Bachelor of Music with Elective Studies in Business

In addition to the required core curriculum, candidates must complete the following:

Applied Area 8 credit hours of applied music
Music History and Literature: An additional upper 300(4000 - 4459) level course is required.
09(1090), Non-Western Music I, or 10(1100), Non-Western Music II

Practicum
151(2510), Conducting I

Ensemble 4 hours maximum credit

Internship
292(4920), Internship (replaces Music 192(3920) Senior Research in Core Curriculum)

English One of the following English courses is required:
210(3100), Advanced Expository Writing
212(3120), Business Writing
213(3130), Technical Writing

Business Administration The following courses in business administration are required:
140(2400), Fundamentals of Financial Accounting
145(2410), Managerial Accounting
206(3700), Basic Marketing
210(3600), Management as a Behavioral Science I

Two courses selected from the following list must also be taken:
103(1800), Computers and Information Systems
156(2900), Legal Environment of Business
204(3500), Financial Management
256(3900), Business Law: Contracts, Sales, Secured Transactions, Bankruptcy
270(3720), Management of Promotion
301(3710), Consumer Behavior
309(3621), Human Resource Management
311(3611), Advanced Management and Organizational Behavior
312(3622), Industrial and Labor Relations
347(3441), Income Taxes

Note: The following courses fulfill general education requirements and are prerequisites to the required business administration courses:
Psych 3(1003), General Psychology, or Sociology 10(1010), Introduction to Sociology
Economics 51(1001), Principles of Microeconomics
Curricula for Minors

Minor in Music
Candidates must complete the following courses (26 hours):

Music Theory
30A(1301), Theory of Music I
31A(1311), Theory of Music II
30B(1302), Aural Training I
31B(1312), Aural Training II

Music History and Literature
101(1010), History of Western Music I
102(1020), History of Western Music II

Applied Area 4 credit hours of private lessons

Ensemble 2 credit hours (4 hours maximum credit)

Six additional credit hours to be chosen from courses such as the following:
130A(2301), Theory of Music III
130B(2302), Aural Training III
131A(2311), Theory of Music IV
131B(2312), Aural Training IV
141(3410), Orchestration
116(1210), Intermediate Piano Proficiency
161b(3610), Junior-Junior High School Choral Literature Laboratory

The student must receive at least a C in each music course and maintain a 2.5 GPA in all music courses (Chorus/Singers is not included in the GPA).

Minor in Music Education (choral/vocal, grades K-9)
The minor in music education is designed to provide a second classification area for students enrolled in other education programs that lead to initial teaching certification.

Candidates must complete the following courses (41 hours):

Music Theory
30A(1301), Theory of Music I
31A(1311), Theory of Music II
30B(1302), Aural Training I
31B(1312), Aural Training II

Music History and Literature
101(1010), History of Western Music I
102(1020), History of Western Music II

Music Education
*257(3570), Curriculum and Methods of Teaching Elementary School Music
*267(3670), Philosophic and Practical Foundations of the Secondary Music Education Curriculum
*269(3690), Curriculum and Methods of Teaching Middle School/High School General Music
*Elementary education majors will omit Music 177(3770) from their regular elementary program to take these courses. Also required, as applicable, is SEC ED 393(4399), Student Teaching.

Practicum
14/15(1140/1150), Piano Proficiency
116/118(2160/2180), Intermediate Piano Proficiency
151(2510), Conducting I
161b(2610), Elementary School Choral Literature Laboratory
162b(3620), Junior-Junior High School Choral Literature Laboratory

Applied Music, voice (at least 2 hours must be private rather than class voice)

The student must receive at least a C in each music course and maintain a 2.5 GPA in all music courses (Chorus/Singers is not included in the GPA).

Minor in Jazz Studies Candidates must complete 31 credit hours from the following:

Music Theory
30A(1301), Theory of Music I
31A(1311), Theory of Music II
32(1320), Theory of Jazz
30B(1302), Aural Training I
31B(1312), Aural Training II

Music History and Literature
7(1070), Introduction to Jazz
102(1020), History of Western Music II

Applied Area 4 credit hours of private lessons

Jazz Improvisation
20(1200), Jazz Improvisation Laboratory (2 credit hours/Music 20(1200) repeated)

Piano Proficiency
14/15(1140/1150), Piano Proficiency
116(2160), Intermediate Piano Proficiency
117(2170), Jazz Keyboard Harmony
Graduate Study

Master of Music Education

The master of music education degree is designed to enable music specialists in grades K-12 to pursue continued professional growth in an emphasis area of their choice: choral, general music, instrumental, or music technology.

Admission Requirements

Admission to the program requires a bachelor of music in music education (or equivalent) degree, admission to the Graduate School, and three letters of recommendation.

A written examination in music education (including applications of music history and music theory/ear-training) will be taken during the first semester or term of enrollment in the program for advising purposes and to identify the possible need for review in the areas of music theory and history.

The program requires completion of 32 hours of graduate credit, 22 of which must be earned in residence.

Required Courses and Options:

Each candidate will choose one of the following emphasis areas:

- Choral music education
- Instrumental music education
- General music education
- Music education and technology

The minimum 32-hour program includes the following requirements.

Major Area (9 credit hours)
- 481(5810), Foundations of Music Education (3)
- 491(5910), Music Education Research (3)
- 499(5990), Master's Project in Music Education (3)

Advanced Methods (3 credits from the following)
- 451(5510), Advanced Instrumental Methods (3)
- 461(5610), Advanced Choral Methods (3)
- 471(5710), General Music: A Model for Multi-Faceted Musical Learning (3)

Choose 9 credits from the following:
- 401(5010), Studies in Style and Performance (3)
- 402(5020), Choral Literature (3)
- 403(5030), Band Literature (3)
- 404(5040), Orchestra Literature (3)

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411(5110), Scoring and Arranging (3)
421(5210), Advanced Conducting (3)
462(5620), Guitar in the Classroom (3)
475(5750), Microcomputer Applications in Music Education (3)
476(5760), Microcomputer Assisted Instruction: Curriculum Development in Music (3)
477, Graduate Microcomputer Applications in Music (3)
492(5920), Psychology of Music (3)
Cognate in Education

Choose one 3-credit curriculum course such as:
- Sec Ed 415(6415), The Secondary School Curriculum (3)
- Ele Ed 422(6422), Curriculum Construction in Elementary Schools (3)

Choose one other 3-credit education course such as:
- Ed Rem 420(6707), Classroom Testing and Measurement (3)
- Ed Fnd 421(6421), Philosophy of Education (3)
- Sec Ed 425(6425), Secondary School Supervision (3)
- Ele Ed 425(6425), Elementary School Supervision (3)
- Ed Rem 330(5730), Educational Statistics (3)
- Ed Rem 451(6710), Educational Research Methods (3)

Electives

Choose 5 credits from elective courses such as:
- 301(4010), Marching Band Techniques (3)
- 401(5010), Studies in Style and Performance (3)
- 402(5020), Choral Literature (3)
- 403(5030), Band Literature (3)
- 404(5040), Orchestra Literature (3)
- 406(5060), Graduate Workshop in Music Education (1-3)
- 407(5070), Techniques and Literature for the Jazz Ensemble (3)

- 411(5110), Scoring and Arranging (3)
- 412(5120), Advanced Composition Techniques (3)
- 413(5130), Teaching Music Theory in the High School (3)
- 421(5210), Graduate Conducting (3)
- 431(5310), Graduate Chamber Ensemble (0)
- 443(5430), Special Applied Studies (1)
- 444, Graduate Applied Studies (1)
- 449(5490), Graduate Ensemble (1)
- 451(5510), Graduate Instrumental Methods (3)
- 452(5520), Instrumental Music Administration (3)
- 461(5610), Graduate Choral Methods (3)
- 462(5620), Guitar in the Classroom (3)
- 465(5650), Music Theatre in the School (3)
- 471(5710), General Music: A Model for Multi-Faceted Musical Learning (3)
- 472(5720), Electronic Music Techniques for Teachers (3)
- 473(5730), Individualizing Music Instruction (3)
- 474(5740), Techniques of Group Keyboard Instruction (3)
- 475(5750), Microcomputer Applications in Music Education (3)
- 476(5760), Microcomputer Assisted Instruction: Curriculum Development in Music
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477, Graduate Microcomputer Applications in Music (3)
480(5800), Musical Acoustics (3)
482(5820), School Music Administration and Supervision (3)
483(5830), Contemporary Music Education (3)
484(5840), Problems of Urban Music Education (3)
492(5920), Psychology of Music (3)
495(4950), Special Problems in Music Education (3)
Ed Tec 340(5340), Selection and Utilization Education Media (3)
Ech Ed 410, Foundations of Pre-School Education (3)
Spec Ed 412(6412), Psychology of Exceptional Children (3)
Sec Ed 414(6414), Teaching the Gifted/Talented in the Secondary School (3)
Sec Ed 418(6418), The Junior High/Middle School (3)
Sec Ed 427(6427), Supervision of Clinical Experiences in Teacher Education (3)
Sec Ed 429(6429), The Department Head (3)
Ed Rem 431(6710), Educational Research Methods (3)

Career Outlook

Undergraduate

A music degree builds the foundation for a career in professional performance, for teaching in a school or private studio or for serving as a church music director. A music degree may also prepare one for positions in the music industry (recording, publishing, radio programming, manufacturing, or music retail). A trained artistic mind can also be valuable in the fields of advertising, public relations, and consumer services.

A number of UM-St. Louis music graduates have been readily accepted into outstanding graduate programs, including that at UM-St. Louis. Many are pursuing successful careers in music education, business, and industry, or as professional performers.

Graduate

Many graduate students in music education will already hold full-time music teaching positions. A graduate degree in music education allows for continued professional growth. Music specialists may refine their teaching expertise, add to their understanding and knowledge about music and educational processes, become more specialized in a specific emphasis area of music education (choral, instrumental, general music or music technology), or any combination of these professional growth areas.

Graduate-level work in music education is often required to renew a teacher's certificate or to satisfy professional growth requirements specified by an employing school or school district or to advance to new positions within the field of music education.
Course Descriptions
Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St. Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin:

1(1001), 6(1060), 7(1070), 8(1080), 9(1090), 10(1100), 11(1110), 19(1190), 30A(1301), 31A(1311), 32(1320), 101(1010), 102(1020), 103(1030), 105(1050), 108(1080), 130A(2301), 131A(2311), 177(3770), 192(3920), 202(3020), 300(4000), 321(4210), 322(4220), 323(4230), 324(4240), 325(4250), 326(4260), 327(4270), 400(5000), 475(5750).

The following music History courses satisfy the Cultural Diversity requirement: Music 9 and 10(1080/1090)

Applied Music

43A-T (1410 - 1429) Secondary Applied Music (1)
Prerequisites: By audition and consent of department. Courses are offered in the following areas: a, bassoon; b, clarinet; c, classical guitar; d, euphonium; e, flute; f, French horn; g, harp; h, oboe; i, organ; j, percussion; k, piano; l, saxophone; m, trombone; n, trumpet; o, tuba; p, violin; q, viola; r, violoncello; s, string bass; t, voice. Not applicable to the applied music requirement for music majors or music minors. May be repeated for credit.

43Y(1043) Secondary Applied Music: Jazz Studies (1)
Prerequisites: By audition and consent of department. Individual instruction in jazz performance and literature on designated instrument. Not applicable to applied music requirement for music major or music minor degrees. May be repeated for credit.

44A-T (1440 - 1459) Applied Music (1)
Prerequisites: By audition and consent of department. Courses offered in the following areas: a, bassoon; b, clarinet; c, classical guitar; d, euphonium; e, flute; f, French horn; g, harp; h, oboe; i, organ; j, percussion; k, piano; l, saxophone; m, trombone; n, trumpet; o, tuba; p, violin; q, viola; r, violoncello; s, string bass; t, voice. May be repeated, up to 4 credit hours. Applied Music registration requires concurrent registration in a large ensemble and seminar (Music 442Z(1460)).

244Z (3460) Seminar in Pedagogy and Literature (0)
Prerequisite: Concurrent registration with parallel Applied Music course. Seminars are offered in pedagogy and literature for all areas of Applied Music. May be taken on a satisfactory/unsatisfactory basis.

443(5430) Special Applied Studies (1)
Prerequisites: Graduate standing in music and consent of department. Individual instruction in performance and literature of an instrument or instrumental family for pedagogical or review purposes in applied area other than student's primary performance study. No jury examination required. May be repeated for credit.

444 Graduate Applied Music (1)
Prerequisites: Graduate standing in music and consent of department. Instruction offered in the following areas: bassoon, clarinet, classical guitar, euphonium, flute, French horn, harp, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, violin, viola, violoncello, string bass, and voice. May be repeated for credit.

Ensemble Performance

40(1400) University Chorus (1)
Prerequisite: Consent of instructor. Preparation and performance of choral literature.
41(1410) The University Singers (1)
Prerequisite: Consent of instructor. The study and performance of music for vocal chamber ensemble.

50(1500) University Orchestra (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of orchestral repertory.

52(1520) University Band (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of music for the wind ensemble and band.

53(1530) University Wind Ensemble (1)
Prerequisite: Consent of instructor. The study, preparation, and performance of music for wind ensemble and chamber band.

54A-G (1541-1547) Chamber Ensemble (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of music for small ensembles: a, brass; b, jazz combo; c, percussion; d, strings; e, voice; f, woodwinds; g, accompanying.

55(1550) Jazz Ensemble (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of jazz music for big band.

56(1560) Opera Workshop (1)
Prerequisite: Consent of instructor. Instruction in movement, basic stage techniques, technical theater, repertory and performance techniques and preparation. May be repeated for credit.

356(4560) Advanced Opera Workshop (1)
Prerequisite: Consent of instructor. Instruction in movement, stage technique, technical theater, repertory, and performance based on advanced vocal skills. May be repeated for credit.

431(5310) Graduate Chamber Ensemble (1)
Prerequisite: Graduate standing in music and consent of department. Study and performance of traditional and nontraditional chamber literature.

449(5490) Graduate Ensemble (1)
Prerequisite: Graduate standing in music or consent of department. Study, preparation, and performance of ensemble literature from the choral, orchestral, or band/wind ensemble repertory. May be repeated for a total of four hours of credit.

Music Education

177(3770) An Introduction to Music for the Elementary School Teacher (3)
An introduction to the elements of music and the expressive nature of music. Includes application of fundamentals to appropriate literature and activities for use with children in a classroom setting. This course will not apply toward requirements for a music major.

257(3570) Curriculum and Methods of Teaching Elementary School Music (3)
(Same as Ele Ed 277(3277). Prerequisites: Music 131 (2311/2312) and Ed Fnd 111(1111). For the music education major. A study of the elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources. This course must be completed in residence.

267(3670) Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)
(Same as Sec Ed 275(3670). Prerequisites: Music 131(2311/2312), Music 257(3570)/Ele Ed 277(3277) and Ed Fnd 111(1111). Concurrent registration in Music 268(3680)/Sec Ed 276 (3576) and Music 270(3700)/Sec Ed 278(3278) or Music 271(3710)/Sec Ed 279(3279). For the music education major. A study of the secondary school music program: curricular objectives, philosophy, and general administrative procedures common to all secondary music classes. This course must be completed in residence.

268(3680) Curriculum and Methods of Teaching Instrumental Music I (2)
(Same as Sec Ed 276(3576). Prerequisites: Music 131(2311/2312), 141(3410), 151(2510), 161(2610), Ed Fnd 111(1111), two of the following: Music 25(1250), 26(1260), 27(1270), and 28(1280). Concurrent registration in Music 257(3570)/ Ele Ed 277(3277). A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music education program. Topics include student recruitment the elementary band/orchestra, small group instruction, jazz ensemble, and marching band. This course must be completed in residence.

269(3690) Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)
(Same as Sec Ed 277(3277). Prerequisites: Music 131(2311), Music 257(3570)/Ele Ed 277(3277), and Ed Fnd 111(1111). Concurrent registration in Music 267(3670)/Sec Ed 275 (3275) and Music 271(3710)/Sec Ed 279(3279). For the music education major. A study of the middle school/junior high school general music program emphasizing a conceptually based curriculum: objectives, methodologies, materials, innovations, classroom organization, and management. This course must be completed in residence.
270(3700) Curriculum and Methods of Teaching Instrumental Music II (2)  
(Same as Sec Ed 278(3278). Prerequisites: Music 131(2311/2312), Music 152a(3521), Music 162(3620), Music 257(3570)/ELE Ed 277(3277), Music 268(3680)/Sec Ed 276(3276), Ed FND 111(1111), three of the following: Music 25(1250), Music 26(1260), Music 27(1270), Music 28(1280). Concurrent registration in Music 267(3670)/Sec Ed 275(3275). A continuation of Music 268(3680)/Sec Ed 276(3276). Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation. This course must be completed in residence.

271(3710) Curriculum and Methods of Teaching Secondary Choral Music (2)  
(Same as Sec Ed 279(3279). Prerequisites: Music 131(2311/2312), Music 257(3570)/ELE Ed 277(3277), and Ed FND 111(1111). Concurrent registration in Music 267(3670)/Sec Ed 275(3275) and Music 269(3690)/Sec Ed 277(3277). For the music education major. A study of the secondary school choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes. This course must be completed in residence.

300(4000) Advanced Techniques in Music Education (1-2)  
Prerequisite: A 200-level music education course or permission of the department. Intensive study for advanced music education students and music teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit.

301(4010) Marching Band Techniques (3)  
Prerequisite: Junior Standing. Techniques for organizing and training school marching bands. Content will include planning and charting shows, rehearsal problems, corps and traditional styles, and auxiliary units.

306(4060) Advanced Workshop in Music Education (1-5)  
Prerequisite: Junior standing and consent of the instructor. An intensive variable-topic workshop in music education presenting knowledge and skills to supplement specific areas in existing courses.

400(5000) Directed Research in Music: Variable Topic (1-5)  
Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

406(5060) Graduate Workshop in Music Education (1-5)  
Prerequisite: Graduate standing and consent of instructor. Intensive workshop in music education. Variable topics.
471(5710) General Music: A Model for Multifaceted Musical Learning (3)
Prerequisite: Graduate standing in music. An exploration of the general music class as a learning laboratory model designed to actively engage the learner in a series of comprehensive music learning experiences. Emphasizes techniques and materials that will motivate the nonperformance-oriented student.

472(5720) Electronic Music Techniques for Teachers (3)
Prerequisite: Graduate standing in music. Basic electronic music instruments, their operation and use as teaching tools. Materials and techniques suitable for use with students in both elementary and secondary school settings will be presented.

473(5730) Individualizing Music Instruction (3)
Prerequisite: Graduate standing in music. The development of learning strategies, materials, and evaluation techniques suitable for better accommodating the varying interests, abilities, and learning styles of individual students in music classes.

475(5750) Microcomputer Applications in Music Education (3)
(Same as ED 475(5750). Prerequisites: Graduate Standing in Music. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

476(5760) Microcomputer-Assisted Instruction Curriculum Development in Music (3)
(Same as ED 476(5760). Prerequisites: Graduate Standing in Music. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major CAI program for use in an elementary, secondary or postsecondary setting is required.

477 Graduate Microcomputer Applications in Music (3)
(Same as ED 477.) Prerequisite: Graduate Standing in Music. The study of complex microcomputer applications including music synthesis, MIDI, music-oriented graphics, voice and pitch recognition, administrative applications and computer-assisted instruction.

480(5800) Musical Acoustics (3)
Prerequisite: Graduate Standing in Music. The acoustical properties of the human voice, acoustic and electronic musical instruments, rehearsal rooms and performance spaces. Applications for musicians/teachers in the choice, design and acoustical treatment of rehearsal/performance space, requirements and techniques for quality musical recordings and the use of acoustic principles in the design of original classroom musical instruments.

481(5810) Foundations of Music Education (3)
Prerequisite: Graduate standing in music. A study of the historical, philosophical, and psychological foundations of music education. Includes principles necessary for development, implementation, and evaluation of the total school music program.

482(5820) School Music Administration and Supervision (3)
Prerequisite: Graduate standing in music. Theory and practice of administration and supervision of school music programs.

483(5830) Contemporary Music Education (3)
Prerequisite: Graduate standing in music. A study of recent trends and issues in music education.

484(5840) Problems of Urban Music Education (3)
Prerequisite: Graduate standing in music. An analysis of current practices, problems, trends, and research involved in developing strategies for the improvement of music programs in inner-city schools.

491(5910) Music Education Research (3)
Prerequisite: Graduate standing in music. Applications of various approaches in defining and analyzing research problems in music education. Historical, experimental, descriptive, and philosophical research will be included.

492(5920) Psychology of Music (3)
Prerequisite: Graduate standing in music. A study of the effects of music on behavior. Tuning and temperament, psychoacoustics, measurement of musical behavior, aesthetic response to music, and functional music.

495(4950) Special Problems in Music Education (1-3)
Prerequisite: Graduate standing in music. Selected problems to meet the needs of the individual student.

499(5990) Master's Project in Music Education (3)
Prerequisite: Graduate standing in music. A project utilizing historical, experimental, philosophical, descriptive, or analytical research techniques. The project will include a written report.

Music History and Literature

1(1001) Introduction to Music (3)
A historically oriented study of art music, its styles, and forms from the Baroque period to the present day. This course will not apply toward requirements for a music major.
6(1060) Introduction to African-American Music (3)
A survey of the African-American musical heritage from its African origins through its role and development in twentieth-century American society. All genres will be discussed, including African-American composers who wrote in the European tradition. This course will not apply toward requirements for a music major or minor.

7(1070) Introduction to Jazz (3)
A survey course that examines the musical, historical, and social aspects of the subject. This course will not count toward requirements for a music major.

8(1080) Introduction to Irish Traditional Music (3)
This music appreciation course will survey the rich tapestry of Irish traditional music, song and dance. Particular attention will be given to the cultural history of the traditional music maker in Irish society, as well as among the constituent communities of the Irish Diaspora in Europe and North America. The course will introduce students to the instruments, performance settings and regional styles of Irish traditional music. Using field recordings and archive materials collected in Ireland and North America, it will also focus on celebrated folk performers of the past and present, and evaluate the impact of contemporary media on their ancient, yet evolving, musical genre. No prior experience of Irish traditional music is necessary to pursue this course.

9(1090) Non-Western Music I (3)
The music of Oceania; folk and classical music and dance of East Asia, Tibet and Southeast Asia; the influence of Buddhism, Islam, and Western acculturation on the functions of music in these societies.

10(1100) Non-Western Music II (3)
Music of the African continent, West Asia, and South Asia; a survey of the tribal, folk, and classical music and performing arts of these cultures.

11(1110) Introduction to Irish Traditional Music in North America (3)
Will examine the cultural history of Irish traditional music and music makers in North America since the end of the eighteenth century. Drawing on a diversity of ethnomusicological sources, will evaluate the contribution of Irish musicians, singers and dancers to the growth of American popular culture in the nineteenth and twentieth centuries. Will explore the role of Irish musicians in rural communities from Newfoundland and Quebec to the Mid Western States and California. In reviewing the music history of the Irish Diaspora in North America, will compare and contrast historical recordings of Irish music made in the 1920s with those produced by modern masters of Irish music. No prior knowledge of Irish traditional music is necessary to pursue this course.

101(1010) History of Western Music I (3)
Prerequisite: Music 30(1301/1302) or consent of department. A general survey of the history of Western music. Includes the evolution and development of styles, forms, and their social setting.

102(1020) History of Western Music II (3)
Prerequisite: Music 30(1301/1302) or consent of department. A continuation of Music 101(1010).

300(4000) Directed Studies: Variable Topic (1-5)
Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

321(4210) Music of the Middle Ages (3)
Prerequisite: Music 101(1010) or consent of department. A study of music and musical thought from the beginning of Christianity to 1450. Gregorian chant, polyphonic music, the Ars Antiqua, and the Ars Nova.

322(4220) Music of the Renaissance (3)
Prerequisite: Music 101(1010) or consent of department. A study of the theoretical and practical impact of humanism on music, musicians, and musical thought from 1450 to 1600. Sacred and secular music; the rise of an instrumental idiom.

323(4230) Music of the Baroque (3)
Prerequisite: Music 101(1010) or consent of department. A detailed study of music from 1600 to 1750. The rise of the new style, national styles in the seventeenth century, and the culmination of the Baroque period.

324(4240) Music of the Classic Period (3)
Prerequisite: Music 102(1020) or consent of department. A study of the growth of classical style; galant and expressive styles; Mozart, Haydn, and Beethoven.

325(4250) Music of the Romantic Period (3)
Prerequisite: Music 102(1020) or consent of department. Composers, forms, and styles in nineteenth-century music. The literary and social background of musical romanticism.

326(4260) Music of the Twentieth Century (3)
Prerequisite: Music 102(1020) or consent of department. A detailed study of trends in modern music and of influential composers; impressionism, serial composition, electronic music, and other recent techniques.
327(4270) A History of Byzantine Music and Hymnography (3)
Prerequisite: Music 102(1020) or consent of department. A study of the liturgical and secular music of the Byzantine Empire and post-Byzantine period during the Ottoman occupation; a historical investigation of the Oriental and Ancient Greek origins of the music along with an evolution of the types of music and poetical forms. A study of the types of notation and transcription analyses from the Medieval neumes into Western staff notation is included.

400(5000) Directed Research in Music: Variable Topic (1-5)
Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

Music Theory and Composition

19(1190) Fundamentals of Music (3)
This course provides basic music vocabulary: scales, intervals, and chords, and systematic instruction in the melodic, rhythmic, and harmonic aspects of music. This course will not apply toward requirements for a music major.

30A(1301) Theory of Music I (3)
Prerequisite: Consent of the department. The basic materials of music and their use in analyzing and writing music. Concurrent registration in Music 30B(1302) is required for music majors and minors.

30B(1302) Aural Training I (1)
Prerequisite: Consent of the department. Systematic instruction in ear training and sight singing. Includes diatonic melodic and rhythmic dictation, chord quality recognition, sight singing of diatonic melodies, and the reading of units and divisions of units in simple and compound meters.

31A(1311) Theory of Music II (3)
Prerequisites: Music 30A(1301) and Music 30B(1302) or consent of department. The study of seventh chords, secondary dominants, and modulation; composition in small forms. Concurrent registration in Music 31B(1312) is required for music majors and minors.

31B(1312) Aural Training II (1)
Prerequisites: Music 30A(1301) and Music 30B(1302) or consent of department. The systematic instruction in ear training and sight singing begun in Music 30B(1302) is continued. Includes further diatonic melodic and rhythmic dictation, primary chord progressions, sight singing of diatonic melodies, and the reading of unit subdivisions in simple and compound meters.

130A(2301) Theory of Music III (3)
Prerequisites: Music 31A(1311) and Music 31B(1312) or consent of department. Study of chromaticism in eighteenth and nineteenth centuries; composition in simple part forms. Concurrent registration in Music 130B(2302) is required for music majors and minors.

130B(2302) Aural Training III (1)
Prerequisites: Music 31A(1311) and Music 31B(1312) or consent of department. Systematic instruction in ear training and sight singing of Music 31B(1312) is continued. Chromatic melodic dictation, rhythmic dictation continues, secondary and altered chords in progressions are introduced. Sight singing of chromatic, modulating, and modal melodies, and the reading of syncopated rhythmic patterns are included.

131A(2311) Theory of Music IV (3)
Prerequisites: Music 130A(2301) and 130B(2302) or consent of department. Study of late nineteenth- and early twentieth-century tonal harmony; analysis of large forms; composition in large forms. Concurrent enrollment in 131B(2312) is required for all music majors and minors.

131B(2312) Aural Training IV (1)
Prerequisites: Music 130A(2301) and 130B(2302) or consent of department. Systematic instruction in sight singing and advanced aural perceptions. Includes drill in recognition of formal events and key relationships, sight singing of twentieth-century melodies, and rhythmic drills in borrowed divisions and changing meters.

141(3410) Orchestration (3)
Prerequisite: Music 131(2311/2312) or consent of department. Study of the instruments of the brass, woodwind, percussion, and string families; scoring, transcription, and arranging for various instrumental ensembles.

142(3420) Choral Arranging (2)
Prerequisite: Music 131(2311/2312) or consent of department. Study of vocal ranges, characteristics and capabilities at various ages and scoring for choral ensembles comprised of singers in these varying stages of development.

143 (3430) Instrumentation and Scoring Technique (2)
Prerequisite: Music 131(2311/2312) or consent of department. Study of the modern orchestral instruments; scoring for various instrumental ensembles with emphasis on idiomatic technique and transcription from keyboard models. This course will not fulfill the music degree requirement for students with instrumental or keyboard emphases.
300(4000) Directed Studies: Variable Topic (1-5)
Prerequisite: Consent of instructor. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

311(3110) Analysis of 20th Century Technique (2)
Prerequisite: Music 131(2311/2312) or consent of department. Study of compositional devices in tonal and atonal music of the twentieth century.

312(3120) Tonal Counterpoint (2)
Prerequisite: Music 131(2311/2312) or consent of department. Study of tonal counterpoint with emphasis on the eighteenth-century style. Composition in two and three parts.

330(3300) Seminar in Composition (2)
Prerequisite: Music 311(3110) or consent of instructor. The study of composition in theory and practice.

400(5000) Directed Research in Music: Variable Topic (1-5)
Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

411(5110) Scoring and Arranging (3)
Prerequisite: Graduate standing in music. Experience in scoring and arranging music for a variety of ensembles.

Pedagogy

25(1250) Brass Techniques (2)
Prerequisite: Consent of the department. The objective of this course is to familiarize students with materials and techniques for teaching all brass instruments including trumpet, horn, trombone, euphonium, and tuba in the school setting.

26(1260) Woodwind Techniques (2)
Prerequisite: Consent of the department. The objective of this course is to familiarize students with materials and techniques for teaching all woodwind instruments including flute, clarinet, oboe, bassoon, and saxophone in the school setting.

27(1270) String Techniques (2)
Prerequisite: Consent of the department. The objective of this course is to familiarize students with materials and techniques for teaching all string instruments including violin, viola, cello, and bass in the school setting.

28(1280) Percussion Instrumental Techniques (2)
Prerequisite: Consent of the department. The objective of the course is to familiarize students with materials and techniques for teaching all percussion instruments including snare drum, tom-tom, bass drum, cymbals, drumset, timpani, mallet instruments and miscellaneous percussion instruments in the school setting.

124(1240) Intermediate Vocal Techniques (2)
Prerequisite: Consent of department. Open to non-voice majors and to non-music majors who participate in a university choral program.

156(1560) Piano Pedagogy (2)
Prerequisite: Equivalent of Music 45k or permission of instructor. A study of methods, repertoire, and technical problems pertaining to private studio teaching for all levels of performance ability.

221(2210) Pedagogy of Jazz Improvisation (1)
Prerequisites: Music 131(2311/2312) and permission of instructor. Study of the techniques, systems, and instructional materials used in teaching jazz improvisation.

300(4000) Directed Studies: Variable Topic (1-5)
Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

400(5000) Directed Research in Music: Variable Topic (1-5)
Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

Practicum

14, 15(1140/1150) Piano Proficiency (2)
Prerequisite: Permission of department. Group instruction for music majors who do not meet beginning keyboard requirements.

20(1200) Jazz Improvisation Laboratory (1)
Prerequisite: Consent of instructor. The study and application of the theoretical, technical, and performance aspects of jazz improvisation. May be repeated for credit.

116(2160) 118(2180), 119(3190), 120(3290) Intermediate Piano Proficiency (1)
Prerequisite: Music 15(1150) or permission of department. Continuation of piano proficiency study.

117(2170) Jazz Keyboard Harmony (1)
Prerequisite: Applied Music 116(2160) or consent of department. Group keyboard instruction in the application of chordal structures and harmonic functions commonly used in mainstream jazz performance.
125(1250) Singer's Diction: English, Italian, and German (1)
Prerequisite: Music 44 or Music 124. A study of English, Italian, and German pronunciation using the International Phonetic Alphabet.

126(1260) Singer's Diction: Latin, French, and Spanish (1)
Prerequisite: Music 44 or Music 124. A study of Latin, French, and Spanish pronunciation using the International Phonetic Alphabet.

151(2510) Conducting I (2)
Prerequisite: Music 130(2301/2302), Concurrent registration in Music 161A(2610) required for bachelor of music in music education program. Techniques and problems in conducting.

152a(3521) Conducting II Instrumental (2)
Prerequisite: Music 151(2510). Concurrent registration in Music 162A(3620) required for bachelor of music in music education program. Advanced study of instrumental conducting and rehearsal techniques; score reading, and interpretation.

152b(3522) Conducting II Choral (2)
Prerequisite: Music 151(2510). Concurrent registration in Music 162A(3620) required for bachelor of music in music education program. Advanced study of choral conducting and rehearsal techniques, score reading, and interpretation.

153(1530) Accompanying I (1)
Prerequisite: Consent of department. Accompanying and ensemble practices, including rehearsal techniques, for keyboard majors. Public performance of works studied is required.

154(1540) Accompanying II (1)
Prerequisite: Consent of department. A continuation of Music 153(1530).

155(1550) Accompanying III (1)
Prerequisite: Consent of department. A continuation of Music 154(1540).

161A(2610) Elementary School Instrumental Literature Laboratory (1)
Prerequisite: Music 130A(2301) & 130B(2302) Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

161B(2611) Elementary School Choral Literature Laboratory (1)
Prerequisites: Music 130A(2301) & 130B(2302). Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

162A(3620) Junior-Senior High School Instrumental Literature Laboratory (1)
Prerequisite: Music 131A(2311) & 131B(2312) Analysis and evaluation of selected instructional and concert materials for junior and senior high school performance groups.

162B(3621) Junior-Senior High School Choral Literature Laboratory (1)
Prerequisites: Music 131A(2311) & 131B(2312) Analysis and evaluation of selected instructional and concert materials for junior and senior high school performance groups.

192(3920) Senior Research (2)
Prerequisite: Consent of department. Required of all senior music majors. Directed readings and research in an area mutually acceptable to the student and instructor.

292(4920) Internship (1-3)
Prerequisites: Senior standing in bachelor of music business emphasis program and permission of the instructor. Supervised experience in the area of the student's career objective, such as music or instrument merchandising, arts management, mass communication, publishing, manufacturing or other, as available. May be repeated once for credit in different area.

300(4000) Directed Studies: Variable Topic (1-5)
Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

400(5000) Directed Research in Music: Variable Topic (1-5)
Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, if topic is substantially different, but no more than 5 hours may be applied toward a degree.

402(5020) Choral Literature (3)
Prerequisite: Graduate standing in music. Study of choral literature appropriate for ensembles from elementary to senior high school. Criteria for evaluating choral literature will be developed, and pedagogical implications of choral music as a means of developing comprehensive musicianship will be discussed.

403(5030) Band Literature (3)
Prerequisite: Graduate standing in music. Study of band literature appropriate for soloists and ensembles from elementary to senior high school. Criteria for evaluating the literature will be developed, and related technical problems will be studied.
404(5040) Orchestra Literature (3)
Prerequisite: Graduate standing in music. Study of orchestral literature appropriate for soloists and ensembles from elementary to senior high school. Criteria for evaluating the literature will be developed, and technical problems will be studied.

421(5210) Graduate Conducting (3)
Prerequisite: Graduate standing in music. Conducting techniques, score reading, and interpretation of choral, orchestral, and band literature.

448(5480) Graduate Applied Conducting (1-2)
Prerequisite: Music 421(5210) and consent of the department. Private conducting study of the choral, orchestral, or band repertoire. Does not fulfill the applied music requirement for the master of music education degree.
Department of Theatre and Dance

The Theatre and Dance Department at the University of Missouri-St. Louis is a newly activated program. Theatre courses will be offered in both the Fall and Spring semesters of the 2002-2003 academic year, and Dance courses are projected for 2003-2004. The University of Missouri-St. Louis has presented theatrical productions in each of the last four academic years, including *Man of La Mancha* (1999), *Pirates of Penzance* (2000), *El Capitan* (2001) and *The 1940's Radio Hour* (2002).

Courses planned for the 2002-2003 academic year include Fundamentals of Acting, Introduction to Theatre, and Advanced acting. Curricular planning is under way for a degree program in theatre. For further information concerning theatre at the University of Missouri-St. Louis, contact the College of Fine Arts and communication office.
Course Descriptions

21(1210) Fundamentals of Acting (3)
Oral and physical communication of a role through improvisations, exercises, and scene work. Emphasis on modern representational method with some attention given to other styles.

80(1800) Introduction to the Theatre (3)
A study of theatre as an art form, emphasizing the audience's appreciation of the art of the playwright, actor, director, and designer. Study of major periods, genres, and plays from classical to modern time.

222(3222) Advanced Acting (3)
Prerequisite: Fundamentals of Acting 21(1210).
Laboratory-discussion course emphasizing role analysis, scene study, characterization, and ensemble acting.
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primarily in the evening to accommodate part-time, as well as full-time students.

Admission Requirements
Program applicants must have the following:
- Baccalaureate degree.
- 3.0 or B average (students with exceptions should contact the director of the gerontology program).
- Official transcripts of all previous undergraduate/graduate work.
- Three letters of recommendation

In addition, students must meet the other general requirements for admission to the Graduate School as explained in the Graduate Study section of the Bulletin.

Degree Requirements
The students are required to complete 30 credit hours, including 27 hours in gerontology courses, and a 3-hour statistics course. The required courses are listed below.

Gerontology Distribution Requirements

A. Public Policy and Aging-3 credits from the following:
Ger (PPA, Pol Sci) 443(6443). Health Care Policy
Ger (PPA, Pol Sci) 417(6417), Income and Pension
Policy for the Aged
Ger (Soc) 449(5449) Issues in Retirement

B. Health and Physical Aspects of Aging - 3 credits from the following:
Ger 300A (Soc Wk 381A(5610) Mechanics of Aging I: The Aging Body (1 credit hour)
Ger 300B (Soc Wk 381B(5611) Mechanics of Aging II: The Aging Brain (1 credit hour)
Ger 300C (Soc Wk 381C(5612) Mechanics of Aging III: Diseases of Aging (1 credit hour)
Ger (Nur) 401(6401), (5000) Health and Wellness in the Aging
Ger 441(6441) Aging and Health Behavior
Ger 453(6458) Opt 558(6650), Geriatric Optometry

C. Psychosocial Aspects of Aging-3 credits from the following:
Ger (Psych) 373(4373) Psychology of Aging
Ger (Psych) 376(4376) Mental Health and Aging
Ger (Soc) 361(4361), Sociology of Aging
Ger (Anthro) 440(5440) Cultural Aspects of Aging

D. Practica in Gerontology, 6 credits from the following:
Ger 495(6495) Practicum in Gerontology
Ger 496(6496) Advanced Practicum in Gerontology

E. Ger 494(6494) Integrative Research in Gerontology - 3 credits

F. Gerontology Electives - 9 credits

G. Graduate-level statistics course - 3 credits
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Students should consult Director of Gerontology for approved courses.

Graduate Certificate in Gerontology
The graduate certificate in gerontology is designed for students who wish to receive post-baccalaureate training in gerontology. The certificate can be taken by itself or in conjunction with pursuit of a graduate degree in another field. Eighteen credit hours are required.

Admission Requirements
Program applicants must have the following:
1. Baccalaureate degree.
2. 2.75 grade point average (students with exceptions should contact the director of the gerontology program).
3. Official transcripts of all previous undergraduate/graduate work.
4. Two letters of recommendation.

Distribution Requirements

A. Public Policy - 3 credits from the following:
   Ger (PPA, Pol Sci) 443 (6443) Health Care Policy
   Ger (PPA, Pol Sci) 417(6417) Income and Pension Policy
   for the Aged
   Ger (Soc) 449(6449) (5449), Issues in Retirement

B. Health and Physical Aspects of Aging - 3 credits selected from the following:
   Ger (Nur) 401(6401) (5000), Health and Wellness in the Elderly
   Ger 441(6441), Aging and Health Behavior
   Ger 300A(5610)(Soc Wk 381A)(5610), Mechanics of Aging I: The Aging Brain (1 credit hour)
   Ger 300B(5611) (Soc Wk 381B)(5611), Mechanics of Aging II: The Aging Brain (1 credit hour)
   Ger 300C(5612) (Soc Wk 381C)(5612), Mechanics of Aging III: Diseases of Aging (1 credit hour)
   Ger 458(6458), Opt 558(8650), Geriatric Optometry

C. Psychosocial Aspects of Aging - 3 credits selected from the following:
   Ger (Psych) 373(4373), Psychology of Aging
   Ger (Psych) 376(4376), Mental Health and Aging
   Ger (Soc) 361(4361), Sociology of Aging

D. Ger 495(6495), Practicum in Gerontology - 3 credits
E. Electives in Gerontology - 6 credits

Undergraduate Certificate in Gerontological Studies
A certificate in gerontological studies, a multidisciplinary course of study, is available at the University of Missouri-St. Louis. This program provides an opportunity for students to obtain a focused specialty in gerontology in addition to their majors. It utilizes offerings in the College of Arts and Sciences, Barnes College of Nursing, the College of Business, and the College of Education. It is appropriate for students in any of the colleges of the University.

Certificate Requirements
A student may earn the certificate in gerontological studies by completing a total of 15 hours. Courses must be chosen from at least two of the following four topic areas. No more than 3 credit hours from Research/Practicum Experience courses will be allowed. The student must have the approval of the director of the gerontology program before enrolling in the course. Courses taken to fulfill the requirements may not be taken on a satisfactory/unsatisfactory basis. New courses continually are added, so it is advisable to check with the director each term. Many courses are cross-listed and also have a gerontology designation.

Humanities
Ger (Eng) 15(1115), Images of Age in Film
Ger (Eng) 16(1116), Images of Age in Literature
Ger (Philos) 156(2256), Bioethics

Natural Sciences and Mathematics
Ger 300A(5610) (Soc Wk 381A), Mechanics of Aging I: The Aging Body
Ger 300B(5611) (Soc Wk 381B), Mechanics of Aging II: The Aging Brain
Ger 300C(5612) (Soc Wk 381C), Mechanics of Aging III: Diseases of Aging

Social Sciences
Ger (Psych) 272(2272), Developmental Psychology: Adulthood and Aging
Ger (Psych) 380(G30), The Psychology of Death, Dying, and End-of-Life Concerns
Ger (Psych) 373 (4373), The Psychology of Aging
Ger (Soc) 361(4361), Social Gerontology
Ger (ID) 60(1160), Aging in America
Ger (ID) 120(1220), Special Topics in Gerontology
Ger (Anthro) 215(3215), Growing Old in Other Cultures

Education
Ger (PE) 190(1190), (Clinical Experience in Physical Gerontology
Ger (PE) 392(5992), Internship in Physical Gerontology
Ger (PE) 330(5330), Prescribing Physical Activity

Career Outlook
The increasing number of elderly in the population has greatly expanded job opportunities in gerontology in the last decade, and job prospects for the future are equally bright. Career possibilities include nursing home administration, administration and planning of community-based programs for the elderly, recreational programming, and counseling of the elderly.
Course Descriptions

15(1115) Images of the Elderly in Film (3)
(Same as Eng 15(1150).) Analysis of the portrayal of older adults in various films. Class discussions focus on the style and thematic content of the film, as well as intergenerational relationships.

16(1116) Images of Age in Literature (3)
(Same as Eng 16(1160).) Reading and discussion of literature that portrays aging and old age in various settings. Discussion and short essays enable consideration of how literature helps in the study of aging and also how the process of aging can be a creative force within literature.

60(1160) Aging in America (3)
(Same as ID 60(1160).) An introduction to the major issues, research, problems, and current service approaches in the study of the aging process. An overview of information useful for students in the arts and sciences, business, education, and nursing schools.

120(1220) Special Topics in Gerontology (1-3)
(Same as ID120(1220).) Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

156(2256) Bioethics (3)
(Same as Phil 156(2256).) An examination of ethical issues in health care practice and clinical research and in public policies affecting health care. Topics include abortion, euthanasia, health care, experimentation, informed consent, and the right to health care.

190(1190) Clinical Experience in Physical Gerontology (3)
Prerequisite: Consent of instructor. (Same as Phy Ed 190(1190).) Early supervised experience in gerontological physical activity programming. Seminar precedes and accompanies clinical experience.

215(3215) Growing Old in Other Cultures (3)
(Same as Anthro 215(3125).) This course examines the wide ranging variability in the roles of older people across different cultures and the effects these have on older people, their families, and their societies.

272(2272) Developmental Psychology: Adulthood and Aging (3)
(Same as Psych 272(2272) Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

300A(5610) Mechanisms of Aging I: The Aging Body (1)
Prerequisites: Bio 001(1012) or Bio 110(1102) or equivalent. (Same as SW 381A). (MSW students normally take all foundation courses prior to enrolling in this course). Introduces students with a social sciences/humanities background to the normal changes in the biology and chemistry of the aging human body.

300B(5611) Mechanisms of Aging II: The Aging Brain (1)
Prerequisites: Ger 300A(5610) or SW 381A or equivalent or consent of instructor. (Same as SW 381B(5611).) (MSW students normally take all foundation courses prior to enrolling in this course) Provides students with a social sciences/humanities background a basic introduction to the biology and chemistry of the aging human brain and nervous system.

300C(5612) Mechanisms of Aging III: Diseases of Aging (1)
Prerequisites: Ger 300A(5610) and 300B(5611) or SW 381A(5610) and 381B(5611) or equivalents or consent of instructor. (Same as SW 381C(5612).) (MSW students normally take all foundation courses prior to enrolling in this course) Provides students with a social sciences/humanities background with information on how diseases associated with aging exacerbate the effects of aging on the human body and mind.

330(5330) Prescribing Physical Activity (3)
Prerequisite: Phy Ed 280(3280) or consent of instructor. (Same as Phy Ed 330(5330) Prescription of physical activity for individualized and group programming based upon physical fitness assessment. Health, nutrition, age, physical fitness, and testing aspects are considered in developing specialized exercise programming based upon current physiological and biomechanical research.

361(4361) Social Gerontology (3)
Prerequisite: Soc 10(1010) and junior standing or consent of instructor. (Same as Soc 361(4361).) Topics include sociological theories of aging, technological and social change, and its effects on the environment of older people, and prejudice and discrimination against the elderly.

373(4373) Psychology of Aging (3)
Prerequisite: Nine hours of Psychology or consent of instructor. (Same as Psych 373(4373). This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.
376(4376) Mental Health and Aging (3)
Prerequisites: Psych 272(2272), 373(4373), or graduate student status. (Same as Psych 376(4376) and SW 376(5600) (MSW students normally take all foundation courses prior to enrolling in this course.) A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and in treatment approaches for elders.

380(4380) Psychology of Death, Dying, and End-of-Life Concerns (3)
(Same as Psych 380(4380). Prerequisites: Nine hours of psychology. This course will address the psychological aspects of a variety of end of life issues, including death attitudes, funeral practices, ethics, grief theory, family communication practices, health care system approaches, and current research regarding these.

390(4490) Directed Readings (1-3)
Prerequisite: Consent of instructor. Directed readings and research or field work. May be repeated for a maximum of three hours.

392(5992) Internship in Physical Gerontology (1-10)
Prerequisite: Phys Ed/Ger 190(1190) or consent of instructor. (Same as Phys Ed 392). Supervised clinical experience in selected gerontological settings as a physical education practitioner under the supervision of university and program professionals. Internship may include two or more separate experiences completed concurrently or sequentially and involve planning of instruction, participant and program evaluation, research, and related activities.

401(6401) Health and Wellness in the Elderly (3)
Prerequisite: Graduate standing. (Same as Nurs 401(5000). Factors contributing to longevity and health in old age, including genetic predisposition, lifestyle, culture, and environment are related to aspects of maintaining health and promoting wellness. Through a holistic approach, explores aspects of nutrition, exercise and activity, prevention of hazards to health, maintaining self-responsibility, managing stress, and meeting continued developmental, emotional and spiritual needs. Considers cross-disciplinary interventions to promote health and wellness in the elderly. Introduces the "Putting Prevention into Practice" model adapted to health promotion in the elderly.

417(6417) Income and Pension Policy for the Aged (3)
Prerequisite: Graduate standing or consent of instructor. (Same as PPA 417(6417), Pol Sci 417(6417), and SW 417(6417) (MSW students normally take the social policy foundation course prior to enrolling in this course). Examination of federal, state, and local policies that affect the economic well being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

440(5440) Cultural Aspects of Aging (3)
(Same as Anthro 440.) Focuses on the variety of solutions encountered in different sociocultural contexts for dealing with the problems, challenges, and opportunities of growing old. It is organized around topics that are of concern to both anthropology and social gerontology: the status of the aged, intergenerational relations, aging in modernizing societies, ethnic dimensions of aging in complex societies, health in later life, death and dying. Both in-depth case studies and cross-cultural comparisons are examined in an effort to arrive at a culturally informed assessment of factors affecting aging and the aged in the United States.

441(6441) Aging and Health Behavior (3)
Prerequisite: Graduate standing. This course examines sociocultural influences on health care practices of older adults. The role of social support and other social resources in the health behavior of older adults is emphasized. Topics include self-care decisions, formal service utilization, family caregiving, and planned interventions for older adults.

442(6442) Minority Aging (3)
Prerequisite: Soc 361(4361) or consent of instructor. (Same as Soc 442(6422). The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

443(6443) Health Care Policy (3)
Prerequisites: Graduate standing and consent of instructor. (Same as Pol Sci 443(6443), PPA 443(6430) and SW 443(6443). (MSW students will normally take the social policy foundation course prior to enrolling in this course). Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444(6444) Seminar in Public Policy and Aging (3)
Prerequisite: Consent of instructor. (Same as PPA 444(6440) and Pol Sci 444(6444). The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.
445(6445) Sociological Dimensions of Chronic Illness (3)
Prerequisite: Soc 400(5400) or consent of instructor.
(Same as Soc 445(6445). The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

449(6449) Issues in Retirement (3)
(Same as Soc 449(5449). Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States. It considers experiences of older persons in retirement: its processes, causes, and consequences-in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

458(6458) Geriatric Optometry (2)
(Same as Opt 558(8650). Special examination and management considerations of the geriatric patient will be discussed. Psychological, physiological, social, and demographic aspects of aging, as well as ocular changes associated with the aging process will be taught.

490(6490) Directed Study (1-3)
Prerequisite: Consent of instructor. Designed to give the student an opportunity to pursue a more in-depth study of a problem area in gerontology than is normally covered in more formal courses. May be repeated for a total of 6 credit hours.

494(6494) Integrative Research Seminar in Gerontology (3)
(Same as Psych 494(7494). Prerequisite: A graduate level research methods course (e.g., PPA 401(6401). This seminar requires students to critically examine research in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation, and qualitative methods.

495(6495) Practicum in Gerontology (3)
Prerequisite: Consent of instructor. Supervised work experience in an agency that serves older adults. Students are required to complete a minimum of 150 clock hours at the practicum site.

496(6496) Advanced Practicum in Gerontology (3)
Prerequisites: Ger 495(6495) and consent of instructor. Advanced practicum experience beyond Gerontology 495(6495). Students must complete a minimum of 150 clock hours of supervised fieldwork (service or research) with older adults.

497(6497) Interdisciplinary Geriatric Care (2)
(Same as Opt 497(6497). Prerequisite: Consent of instructor. Interdisciplinary approaches that address the medical and social needs of the elderly will be examined. Information about geriatric care and social issues affecting the well being of older adults will be provided. Clinical, theoretical, and educational perspectives will be presented.

498(6498) Advanced Seminar in Gerontology (3)
Prerequisite: Graduate standing. This course will provide in-depth analysis of specialized topics in gerontology, which are not covered in required courses. (Course may be repeated for a maximum of nine credits, assuming topics are different.)

499(6499) Topics in Gerontology (1-2)
Prerequisite: Graduate standing. Analysis of a current problem in gerontology. (Course may be repeated for maximum of five credits, assuming topics are different.)
Managerial Decision Making and Health Informatics

General Information

The MHS in Managerial Decision Making and Informatics is an integrated, multidisciplinary degree designed to enable health professionals to bridge the traditional divide between clinical services and business. The degree is offered through the Managerial Decision Making and Health Informatics (MDHI) unit of the Graduate School. The program’s core is comprised of one-credit modules that provide extensive exposure to health informatics and emerging technologies while simultaneously fostering a systems view of the internal and external forces that affect organizations in the healthcare market. Electives drawn from information systems, health economics, health policy, gerontology, nursing, and business allow students to tailor the program to meet their individual career needs. The program is structured to meet the needs of working health professionals, and characterized by a high degree of integration among the courses.

Admission Requirements:

Applicants must complete an application form and also submit:

1. An undergraduate degree with a minimum grade point average of 3.0 or (B).
2. A statement of purpose demonstrating a commitment to pursue a degree in health informatics.
3. A resume, preferably showing two years of professional work experience in a health-related field.
4. Three letters of recommendation from persons qualified to judge the candidate’s potential for success in the program.

Applicants are required to take either the Graduate Record Exam (GRE) General Test, or the Graduate Management Admission Test (GMAT), and fulfill the general requirements for admission to the Graduate School as explained in the Graduate Studies section of this Bulletin. These exams measure verbal, quantitative and analytical skills that are developed over a long period of time and are associated with success in graduate studies.

Admission decisions are based on the applicant’s portfolio. The MDHI program director may request a personal or phone interview once the applicant’s file is complete. Applicants who do not meet all the requirements listed above may be provisionally admitted to the program at the program director’s discretion.

Mathematics Background Requirement

If college algebra or its equivalent was not taken as part of the applicant’s undergraduate program, they are required to successfully complete Math 30 or its equivalent prior to their entrance into the MHS-MDHI program. This course may not be used as a program elective.

Degree Requirements

Students are required to complete 36 credit hours. Of these, 21 are in the core curriculum, 6 are from related fields as electives, and 9 involve contact with the local healthcare community via case studies and a capstone project course.

Distribution Requirements

A. Overview: 7 credits
- MDHI 400(6400), Emerging Trends in Healthcare Markets
- MDHI 402(6402), Insurance and Managed Care
- MDHI 404(6404), The Internet and Electronic Commerce for Healthcare Professionals
- MDHI 406(6406), Informatics in the Health Professions
- MDHI 408(6408), Patient Rights and Provider Responsibilities
- MDHI 410(6410), Effective Communication for Healthcare Professionals
- MDHI 412(6412), Organizational Structures and Administration in the Healthcare Industry

B. Tools and Techniques used in Decision Making: 4 credits
- MDHI 420(6420), Quality and Productivity Improvement Tools
- MDHI 422(6422), Decision Analysis
- MDHI 424(6424), Modeling and Understanding Statistical Relationships
- MDHI 426(6426), Outcomes Research Methods

C. Understanding Decision Making: 5 credits
- MDHI 440(6440), Total Quality Management in Healthcare Organizations
- MDHI 450(6450), Consumer Behavior in Healthcare Markets
- MDHI 452(6452), Health Provider Decision Making
- MDHI 454(6454), The Role of the Government in the Healthcare Sector
- MDHI 456(6456), Outcomes Research Applications in the Healthcare Sector

D. Informatics: 5 credits
- MDHI 460(6460), Information Technology Concepts and Elements
- MDHI 462(6462), Health Information Resource Management
- MDHI 464(6464), Decision Support for Healthcare Management
- MDHI 466(6466), Health Information Systems Evaluation
- MDHI 468(6468), Health Data Warehousing and Security
E. Electives: 6 credits
Students may select courses from the list below, or another
course approved by the MDHI program director.

- Econ 471(6750), The Political Economy of Healthcare
- Econ 472(6760), Health Economics
- MSIS 430(5326), Quality Management
- MSIS 485(6825), Management Information Systems: Theory and
- MSIS 488(6840), Information Systems Analysis
- Nurs 405(6105), Values in Health Care Decision Making
- Nurs 406(6106), Policy, Organization and Financing in
  Healthcare
- Nurs 408(6108), Health and Society
- Nurs 458(6114), Resource Utilization
- Phil 456, Medical Ethics for Health Care Providers
- PPA/Pol Sci/Ger 443(6443), Health Care Policy
Course Descriptions

400(6400) Emerging Trends in Healthcare Markets (1)
Emerging trends in the healthcare marketplace are described. Topics include market dynamics of the healthcare industry, the use of quality and accessibility to enhance market share, changes in cost accounting systems and healthcare marketing tactics, telemedicine, and more. Emphasis is on recent changes in the local and national markets, and projections for the future.

402(6402) Insurance and Managed Care (1)
The dynamic changed in the managed care industry is explored. The structure of managed care plans is described and analyzed, focusing on the ways that managed care plans have changed the incentives for health providers and patients to alter their behavior, thus leading to changes in medical care delivery. Evidence of the impacts of managed care are studied on important trends such as health care spending, the utilization of medical care, and the quality of medical care. Proposed reforms of the managed care industry will be studied and analyzed.

404(6404) The Internet and Electronic Commerce for Healthcare Professionals (1)
Discussion of identifying and analyzing healthcare organizational needs that may be satisfied using electronic commerce technologies. Focus is on the technical and economic evaluation, analysis, and design of Internet Web pages for electronic commerce using a standard programming language such as, for example, Java Script. Health industry applications of Internet electronic commerce, electronic data interchange, and telemedicine will be discussed.

406(6406) Informatics in the Health Professions (1)
Overview of Health Informatics as a discipline, describing the history of its development, current research and applications domains, job opportunities, informatics resources and ethical responsibilities. Examination of the roles of managers, coordinators, consultants, and users of informatics in the health sciences.

408(6408) Patient Rights and Provider Responsibilities (1)
Examination of issues involving relations between patients and healthcare providers. Topics include informed consent to medical treatment, access to experimental liability for denial of care, and patient confidentiality.

410(6410) Effective Communication for Healthcare Professionals (1)
Analyzing business writing and speaking, and the communication conventions common in organizations. Emphasis is on developing skills critical to career advancement and necessary for effective organizational functioning.

412(6412) Organizational Structures and Administration in the Healthcare Industry (1)
Various organizational structures present in today's healthcare industry are described. Utilizing a systems perspective, several areas from the standpoint of both individual and organizational performance, including communication, motivation, conflict resolution, and leadership are considered.

420(6420) Quality and Productivity Improvement Tools (1)
Exploration of the foundations of quality, including Deming's 14 points for effective management, process capability and improvement studies, control charts, brainstorming and root cause analysis, continual improvement cycles and graphical presentation of results. Readings also provide insights into the application of quality principles and processes to personal and professional development.

422(6422) Decision Analysis (1)
Estimation, hypothesis testing, and prediction for biological and health science data are examined. Uncertainty and risk in Decision Making, tools for static and sequential decisions, excellence in graphical presentation and the effective presentation of statistical results to a variety of audiences are stressed.

424(6424) Modeling and Understanding Statistical Relationships (1)
Focus is on correlation and regression models in analyzing healthcare data. Interactive model-building skills are developed with the use of statistical software. An overview of statistical software systems is presented, ranging from spreadsheet tools appropriate for analyzing small or moderate data sets when limited resources are available to statistical packages appropriate for manipulating massive data sets.

426(6426) Outcomes Research Methods (1)
Exploration of the theory and methods of outcomes research. Focus is on various topics important to understanding the outcomes research approach, including: the measurement of costs, the difference between accounting costs and real resource costs, the measurement of quantity and quality, and the methods for distinguishing between inputs and outputs. Also compare and contrast various approaches to outcomes research, including cost-benefit analysis, cost minimization analysis, cost-effectiveness analysis, and cost analysis. Explore the methods for relatively simple therapeutic interventions, screening and secondary prevention activities, and in assessment of diagnostic tests.
440(6440) Total Quality Management in Healthcare Organizations (1)
Examination of Total Quality Management: an integrated, structured approach that aims at delighting customers by delivering exceptional products or services. Key elements include customer involvement, leadership and team dynamics, and building achievements into a lasting culture of ongoing improvement within the organization. Examines success stories from private practitioners, hospitals, managed care organizations, and consumer/buyer alliances that have resulted in significant and long-lasting improvements in both improved clinical outcomes and reduced costs.

450(6450) Consumer Behavior in Healthcare Markets (1)
Build the tools necessary to understand how consumers behave in healthcare markets. Applying standard microeconomic techniques, analyze the incentives facing patients and explore the ways in which their behavior when purchasing healthcare might differ from their behavior in other consumer decisions. Several topics are explored, but emphasis is on the role of health insurance and how it influences consumer behavior, and the important role of information (or the lack thereof) in consumer decisions.

452(6452) Health Provider Decision Making (1)
Apply standard microeconomic techniques to analyze the incentives facing decision makers in the healthcare system and the ways in which they are altered by government policy. We specifically focus on the market for insurance, and the specific markets for health services (e.g., physicians, hospitals, pharmaceuticals). We explore how the institutional setting for these markets has been changing in recent years, the role of consolidations and mergers, and the impact of government regulations on supplier decisions. The role of information and technological changes in health markets are also examined.

454(6454) The Role of Government in the Healthcare Sector (1)
Explore the rationale for government intervention in the health market, from an economic perspective. Also investigate the impact of government policy on health care provision and financing, focusing especially on the effect of entitlement programs (e.g., Medicare and Medicaid), tax policy, and government regulation. Review and analyze various current proposals for health care reform, addressing such potential topics as Medicare and Medicaid reform, insurance reform, Medical Savings Accounts (MSAs), and reform of managed care.

456(6456) Outcomes Research Applications in the Healthcare Sector (1)
Explore empirical applications of outcomes research to medical Decision Making, familiarizing students with the basic ideas and tools of cost-effectiveness analysis in healthcare as it may be applied to medical interventions.

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Focus is on the authoritative sources of outcomes data that administrative leaders can rely on for effective decision making. Topics covered may include provider ranking procedures, evaluation of provider treatment patterns, use of mortality and morbidity data in outcomes research, and the use of outcomes research in utilization management. A major goal of the course is to encourage thinking about how to incorporate the methods, ideas and results from cost-effective analysis into the management of contemporary health organizations. This is largely unexplored territory.

460(6460) Information Technology Concepts and Elements (1)
A broad view of aspects in health informatics, including its methodologies and applications. The concepts and elements covered include data models, data bases, data as a resource, process models, and information systems.

462 Health Information Resource Management (1)
Focus is on the techniques, methods, and philosophies associated with the introduction and maintenance of new information systems in healthcare organizations. We concentrate on the management of information resources such as database design, system make versus buy decisions, information systems right-sourcing, and information systems implementation, operation and management.

464(6464) Decision Support for Healthcare Management (1)
Successful applications of intelligent decision support systems (including executive information systems and organizational and medical support systems) and data mining in the healthcare environment are studied. Issues pertaining to the maintenance of data, construction of decision models, and provision of supporting technologies are explored.

466(6466) Health Information Systems Evaluation (1)
Develop skills needed to effectively identify and integrate technology, human components, and strategic needs of healthcare information systems. Of particular emphasis are the tools and methods for user information needs assessment, user information requirements, information use assessment, systems prototyping and evaluation.

468(6468) Health Data Warehousing and Security (1)
The benefits and difficulties inherent in designing data warehouses to collect, integrate, and store legacy information from several databases are described. Procedural issues related to data access and security are discussed, in light of emerging technologies such as smart cards, wireless Intranet and Internet communications, electronic data exchange among patients, healthcare providers, suppliers, insurers, and other entities.
480(6480) Practitioner's Forum (1)
Students will work in teams to analyze and present solutions to case studies which address problems or opportunities currently faced by healthcare organizations. Potential topics include work flow analysis, human resource management, healthcare accounting and finance, entrepreneurship, health services marketing, health law compliance and regulation. This course may be repeated for credit.

490(6490) Practicum in Healthcare Managerial Decision Making and Informatics (6)
Capstone course is a concentrated, experiential opportunity to function as part of a supervised team on informatics and decision making projects within a regional healthcare organization. Special emphasis is given to the synthesis of previous course work, resulting in a cross-functional approach to problem-solving within the organization.
Public Policy Administration

Faculty

George J. McCall, Interim Director, Professor of Public Policy Administration and Sociology*
Ph.D., Harvard University
E. Terrence Jones, Professor of Public Policy Administration and Political Science*
Ph.D., Georgetown University
Carol W. Kohfeld, Professor Emeritus of Public Policy Administration and Political Science
Ph.D., Washington University
Eugene J. Meehan, Curators' Professor Emeritus of Public Policy Administration and Political Science*
Ph.D., London School of Economics
Donald Phares, Professor of Public Policy Administration and Economics*
Ph.D., Syracuse University
Andrew D. Glassberg, Associate Professor of Public Policy Administration and Political Science*
Ph.D., Yale University
J. Germain Gros, Associate Professor of Public Policy Administration and Political Science
Ph.D., University of California-Berkeley
Timothy D. McBride, Associate Professor of Public Policy Administration, Gerontology, and Economics*
Ph.D., University of Wisconsin-Madison
Lana Stein, Professor* of Political Science and Public Policy Administration
Ph.D., Michigan State University
Anne E. Winkler, Associate Professor of Public Policy Administration and Economics*
Ph.D., University of Illinois
Deborah B. Balser, Assistant Professor of Public Policy Administration and Business Administration
Ph.D., Cornell University
Brady Baybeck, Assistant professor of Public Policy Administration and Political Science
Ph.D., Washington University
Nancy T. Kinney, Assistant Professor of Political Science and Public Policy Administration
ABD, University of Colorado at Denver
Ph.D., University of Denver
James M. Krueger, C.P.A., Assistant Professor of Public Policy Administration and Accounting*, Associate Vice Chancellor for Budgeting and Academic Planning
D.B.A., Indiana University
John McClusky, Director of Non-Profit Management and Leadership Program*
Ph.D., University of California-Berkeley
Anne Zerr, Director. Local Government Management and Leadership Program
MBA., Lindenwood University
Gerald J. Blasi, Affiliate Assistant Professor of Public Policy Administration and Political Science
Ph.D., SUNY, Binghamton University

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*Members of Graduate Faculty

General Information

The Master’s Program in Public Policy Administration (MPPA) is an interdisciplinary program designed to prepare students for managerial and policy analysis positions in the public and nonprofit sectors or in organizations having substantial interaction with the public and nonprofit sectors. The program is a unit of the Graduate School and is accredited by the National Association of Schools of Public Affairs and Administration. Core faculty are on joint appointments in public policy administration and disciplines such as economics, political science, sociology, or business administration. The program includes courses in policy analysis, public administration, management, budgeting, and economics in the basic curriculum. The University of Missouri-St. Louis' MPPA program differs from existing programs available in the Missouri-Illinois region in its interdisciplinary nature and emphasis on the development of analytic and administrative skills. It is designed to meet the needs of prospective full-time students, as well as those who wish to earn a degree in the evening while continuing to work.

In addition to the distinguished doctoral-level faculty in public policy administration, students have access to courses and faculty in business and other social sciences, in the Center for Metropolitan Studies, in the Center for International Studies, and in the Center for International Studies. The MPPA program serves as an editorial home of the American Review of Public Administration.

The full facilities of Campus Computing, and the Laboratory for Quantitative Analysis are available. UM-St. Louis is a member of the Inter-University Consortium for Political and Social Research.

Admission Requirements

Applicants to the MPPA program must meet the general requirements for admission to Graduate School as explained in the Graduate Study section of this Bulletin. Students entering the MPPA program may be required to take up to 9 hours of prerequisites in mathematics.

Degree Requirements

The program includes 40 hours, 28 in the core curriculum sequence and 12 in a special field chosen by students in consultation with their advisors.

Prerequisites

Students must demonstrate competency in microcomputer-based applications, including spreadsheets, databases, and Internet use. These competencies must be acquired at the beginning of the degree program, if students are not already familiar with these applications. Competency may be demonstrated by examination, by successfully completing approved non-credit courses in spreadsheets
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and databases, or by completing PPA 480(6800), Management Information Systems.

Core Curriculum
All candidates for the MPPA degree must complete 28 hours in the core curriculum sequence composed of the following public policy administration courses:

Administration
440(6400), Proseminar in Public Policy Administration
460(6600), Organizational Behavior and Administrative Processes

Budgeting
418(6180), Governmental Budgeting and Financial Control

Economics
408(6080), Microeconomics for Policy Analysis
421(6210), Public Sector Microeconomics

Policy Analysis
410(6100), Introduction to Policy Analysis
419(6190), Cases in Public Policy Analysis

Statistics and Applications
401(6010), Introduction to Policy Research
475(6750), Introduction to Evaluation Research Methods

Exit Project
499(6990), Exit Project Research

A thesis is not required, but students must complete written analyses as part of their course work and/or internships. There is also a 1 credit hour exit project PPA 499(6990) examining a problem in public policy administration in the final semester. PPA 419(6190) is a capstone course and should be taken toward the end of the program.

Students may select one of five emphasis areas in which to concentrate their advanced studies: (1) managing human resources and organizations, (2) policy research and analysis, (3) local government management, (4) health policy, (5) nonprofit organization management, or they may select an individualized focus area in consultation with their advisors.

Prior to the completion of 15 hours in the MPPA program, students should identify a specialization. Specific requirements for each focus area are as follows:

1) Managing Human Resources and Organizations
   a. Required (3 hours)
   PPA 449(6490), Human Resources in the Public Sector
   b. Electives – 9 hours chosen from:
      MGMT 462(5611), Advanced Organizational Behavior and Administrative Processes
      MGMT 463(5624), Organizational Training
      Econ 480(6400), Labor Economics

   PPA 468(6680), Negotiating Workplace Conflict
   Soc 424(5424), Conflict Management in Organizations
   Pol Sci 341(3470), Collective Bargaining
   PPA 495, Internship – 3 hours (in assignment relevant to specialization)

2) Policy Research and Analysis
   a. Required (6 hours)
   PPA 365(4650), Introduction to Econometrics or
   Pol Sci 402(6402), Intermediate Techniques in Policy Research
   AND one of the following:
   Pol Sci 411(6411), Seminar in Policy Analysis OR
   Soc 331(4331), Qualitative Methods in Social Research OR
   Pol Sci 403(6403), Advanced Techniques in Policy Research
   b. Electives – 6 hours Chosen from (may include courses listed above but not counted towards specialization requirement)
      Econ 317(3510), Public Finance
      Econ 360(4450), Natural Resource Economics
      Econ 480(6400), Labor Economics
      Econ 490(6900), Advanced Topics in Economic Analysis
      Pol Sci 404(6404), Multi-Method Research
      Pol Sci 422(6422), Law, Courts, and Public Policy
      Soc 432(5432), Survey Research Methods
      PPA 495, Internship (in assignment relevant to the specialization)

Students cannot receive credit for both Econ 365(4100) and Pol Sci 402(6402) or for both Econ 366(4110) and Pol Sci 403(6403)

3) Local Government Management
   a. Required – 6 hours
   PPA 434(6340), Seminar in City Administration AND
   EITHER
   Pol Sci 470(6470), Seminar in Urban Politics OR
   Pol Sci 471(6471), Seminar in Urban Politics
   b. Electives – 6 hours Choose from:
      PPA 449(6490), Human Resources in the Public Sector
      PPA 394(4940), Leadership and Management in Nonprofit Organizations
      PPA 451(6510), Urban and Regional Planning and Public Policy
      PPA 435, Issues in Urban Management
      Econ 317(3510), Public Finance: State and Local
      Econ 470(6700), Political Economy of Metropolitan Areas
      Soc 426(5426), Community and Regional Conflict Intervention
      Pol Sci 432(6432), Intergovernmental Relations
      PPA 495, Internship (in assignment relevant to specialization)

NOTE: Students interested in careers in local government management are strongly encouraged to take PPA 449(6490), Human Resources in the Public Sector, as one of their electives.
4) Health Policy
   a. Required 9 hours:
      PPA 443(6430), Health Care Policy
      PPA 446(6460), Selected Topics in Health Care Policy:
                      Econ 471(6750), Political Economy of Health Care OR
                      Econ 472(6760), Health Economics

   b. Electives – 3 hours Chosen from (may include courses
      listed above but not counted toward specialization
      requirement):
      PPA 446(6460), Selected Topics in Health Care Policy
      (with different substantive area from comparative health
      policy)
      Soc 447(5447), Health Policy and the Elderly
      Ger 376(4376), Mental Health and Aging
      Ger 401(6401), Health and Wellness in the Elderly
      Ger 441(6441), Aging and Health Behavior
      PPA 495, Internship (in assignment relevant to the
      specialization)

5) Nonprofit Organization Management and
   Leadership
   a. Required 9 hours
      PPA 391-A, B, C, (4911,4912,4913), Management Issues
      in Non-Profit Organizations: Staff Management
      Issues; Legal Issues; Financial Issues
      PPA 394(4940), Leadership and Management in
      Non-Profit Organizations
      PPA 396(4960), American Philanthropy and Non-Profit
      Resource Development

   b. Electives - 3 hours chosen from:
      PPA 449(6490), Human Resources in the Public Sector
      PPA 455(6550), Strategic and Program Planning for
      Nonprofit Organizations
      Soc 424(5424), Conflict Management in Organizations
      Soc 426(5426), Community and Regional Conflict
      Intervention
      Soc 430(5430), Policy Mediation Processes
      Soc 444(5444), Social Policy and Community Planning
      BA 343(3451), Accounting for Governmental and
      Nonprofit Entities
      BA 405(5100), Managerial Communication
      BA 412(5900), Public Policies Toward Business
      BA 470, Contemporary Marketing Concepts
      Psych 412(7412), Social Psychology
      PPA 495, Internship (in assignment relevant to the
      specialization)

   Individualized Focus Area
   Prior to the completion of 15 hours in the MPPA program,
   the student must present a proposal for 12 hours of specific
   coursework for approval by the MPPA faculty. The 12
   hours must include PPA 495, Internship (in an assignment
   relevant to the focus area) unless the student has
   significant public or nonprofit sector experience.

Internships

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There currently exists a need for well-trained policy
administrators and analysts. Frequent contact is maintained
with public and nonprofit practitioners and public officials
in the St. Louis metropolitan area, providing valuable input
for program development, creation of a wide variety of
internship possibilities, and assistance with a vigorous
placement program for MPPA graduates. Interns may be
placed in planning agencies, city managers' offices,
administrative departments, or budgeting offices.

An internship is required for students without substantial
experience in the public or nonprofit sectors. MPPA
students employed in public agencies may receive up to 3
hours of credit for internships in those agencies. To do so,
students must develop, in consultation with their advisors,
special research projects outside the scope of their regular
employment duties. Credit is granted after successful
completion of the project and a written paper at the end of
the semester.

Graduate Certificate Program in Nonprofit
Organization Management and Leadership

Through the Public Policy Administration Master's
Program, the University offers a graduate certificate
program for students who are current professional staff,
board members, and other leaders of nonprofit and
voluntary organizations, as well as those who wish to
consider entering the field. There are only two such
graduate programs in Missouri. The certificate can be
taken by itself or in conjunction with the pursuit of the
master's in public policy administration or a graduate
degree in another field.

A. The graduate certificate in nonprofit management and
leadership requires the completion of 18 credit hours. Nine
of these are the following core courses:

1. Leadership and Management in Nonprofit Organizations
   (3 hours) (Political Science 394(4940) same as Public
   Policy Administration 394(4940), Sociology, or Social
   Work 308(4940))

2. Management Issues in Nonprofit Organizations: Staff
   Management Issues (1 hour) (Political Science, Public
   Policy Administration, and Social Work 391-A(4911))

3. Management Issues in Nonprofit Organizations: Legal
   Issues in Governing and Managing Nonprofit
   Organizations (1) (Political Science, Public Policy
   Administration, and Social Work 391-B(4912))

4. Management Issues in Nonprofit Organizations:
   Financial Issues (Political Science, Public Policy
   Administration, and Social Work 391-C(4913))

5. American Philanthropy and Nonprofit Resource
   Development (3 hours) (Pol Sci and Soc Wk 396(4960))
B. Six hours of electives are to be taken from selected courses in accounting, business administration, economics, management, marketing, political science, psychology, public policy administration, and sociology. A student may choose among these courses or other courses approved by the program director. (All Graduate electives must be at the 400 course level.)

C. Three hours of internship are also required, or graduate students should demonstrate either a professional field experience equivalent to the internship or be required to participate. Any request for an exemption from the internship requirement must be approved by the nonprofit program director after a review of the student’s professional or managerial field experience with appropriate documentation. Students who receive an exemption must take another 3 hours of electives from the selection in area B.

The internship will include learning activities in management and governance processes in nonprofit organizations, as well as a seminar in which students will critically reflect on their field experience with a faculty supervisor.

Requirements of admission to the graduate certificate program are the same as those required for admission to the Graduate school: an undergraduate degree, and a GPA of 2.75 or better.

Career Outlook

The current outlook for graduates of the interdisciplinary Master’s Degree in Public Policy Administration Program is quite promising. Recent graduates of this program have found careers as budget analysts, personnel analysts, transportation planners, and human resources planners with local, regional, state, and federal agencies, and the nonprofit sector.
Course Descriptions

365(4650) Introduction to Econometrics (3)
Prerequisites: Econ 51 (1001) and 52(1002); Econ 265(3100) or Math 132(1320); Math 80(1800) or 101 or consent of instructor. (Same as Econ 365(4100). An introduction to quantative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed, Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

391A(4911) Management Issues in Nonprofit Organizations: Staff Management Issues (1)
Prerequisite: Junior Standing. (Same as Pol Sci 391A (4911) and Soc Wk 391A (4911). This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; legal issues that affect these processes.

391B(4912) Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)
(Same as Pol Sci 391B(4812) and Soc Wk 391B(4912). This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

391C(4913) Management Issues in Nonprofit Organizations: Financial Issues (1)
(Same as Pol Sci 391C(4913) and Soc Wk 391C(4913). This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

394(4940) Leadership and Management in Nonprofit Organizations (3)
Prerequisite: Junior standing. (Same as Pol Sci 394(4940), Soc Wk 394(4840), and Soc 308(4940). Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

396(4960) American Philanthropy and Nonprofit Resources Development (3)
Prerequisite: Junior standing or consent of instructor. (Same as Pol Sci 396(4960) and Soc Wk 396(4960). This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, form planning through donor relations.

401(6010) Introduction to Policy Research (3)
(Same as Pol Sci 401(6401). Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

408(6080) Microeconomics for Policy Analysis (3)
Prerequisites: Graduate student standing. (Same as Econ 408(5010). This course introduces microeconomic analysis of consumers, firms, and government, with an emphasis on policy applications. It assumes no prior training in economics and is appropriate for graduate students in public policy administration, nonprofit management, political science, gerontology, criminology and criminal justice, and other related fields.

410(6100) Introduction to Policy Analysis (3)
(Same as Pol Sci 410(6410). Systematic development of a critical/analytic base for dealing with public policy.

415(6150) Directed Reading and Research in Public Policy (1-10)
(Same as Pol Sci 415(6415). Prerequisite: Consent of Instructor. Independent study through readings, reports, research projects, and conferences. May be repeated for credit, provided the subject matter is different.
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417(6417) Income and Pension Policy for the Aged (3)
Prerequisite: Graduate standing or consent of instructor. (Same as Pol Sci 417(6417), Ger 417, and Soc Wk 417(6417).) (MSW students normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

418(6180) Governmental Budgeting and Financial Control (3)
Prerequisite: BA 440. (Same as BA 418(5450).) A study of municipal and federal financial control and budgeting procedures with emphasis on public policy. The impact of financial control on top management decisions and the effect of budget strategies on the allocations of public funds.

419(6190) Cases in Public Policy Analysis (3)
(Same as Pol Sci 419(6419).) Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning.

421(6210) Public Sector Microeconomics (3)
Prerequisites: Econ 251(3001), or BA 410(5001), or PPA 408(6080). (Same as Econ 421(6500).) Application of tools of intermediate microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g., externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

434(6340) Seminar in City Administration (3)
This course provides an overview of the working environment of a city administrator and is jointly sponsored by the local city managers association. Professional city personnel make presentations to the students on six major topics: political structure, organizational structure, service delivery, finance, personnel policies and practices, and leadership. The course provides direct observation of city council meetings, visits to various city facilities, exposure to different philosophies and styles of city management, and provides students a chance to assemble facts, evaluate options, and present policy recommendations for real problems that local administrators face.

435 Issues in Urban Management (3)
Designed to evaluate management issues that confront managers in local government from a political perspective. The format will include an intense review and discussion of original case studies from actual local government situations. The specific focus of this course will vary. Course may be repeated.

440(6400) Proseminar in Public Administration (3)
(Same as Pol Sci 440(6440).) Examination of major approaches to analyzing public policies and their administration. Emphasis is on the effects of administrative organization and procedures on policy decisions and their impacts. Specific topics may include administrative accountability, intergovernmental relations, public-private interaction, implementation processes, bureaucratic expertise, the legal environment of public policy administration, and public service and merit issues.

443(6430) Health Care Policy (3)
Prerequisites: Graduate standing and consent of instructor. (Same as Pol Sci 443(6443), Ger 443, and Soc Wk 443(6443).) (MSW students will normally take the social policy foundation course prior to enrolling in this course.) Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444(6440) Seminar in Public Policy and Aging (3)
Prerequisite: Consent of instructor. (Same as Ger 444 and Pol Sci 444(6444).) The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

446(6460) Selected Topics in Health Care Policy (3)
Prerequisite: Consent of instructor. (Same as Pol Sci 446(6446) and Soc 446(6446).) The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

449(6490) Human Resources in the Public Sector (3)
Prerequisite: PPA 460(6600) or consent of instructor. (Same as Pol Sci 449(6449) and Soc Wk 469(6449).) Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.
451(6510) Urban and Regional Planning and Public Policy (3)
Prerequisites: Graduate standing or consent of instructor. Focuses on the interdependent processes of urbanization and public policy. Students will acquire an understanding of urban planning and public policy in North America.

455(6550) Strategic and Program Planning for Nonprofit Organizations (3)
Prerequisites: Graduate standing or consent of instructor. (Same as Pol Sci 491(6490) and Soc Wk 455(6491). Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

460(6600) Organizational Behavior and Administrative Processes (3)
(Same as MGMT 460(5600). The theoretical and research contribution of the behavioral sciences to management and administration are examined and applied to selected organizational situations. Areas to be considered from the standpoint of both individual and organizational performance are communication, motivation, conflict, decision making, goal setting, leadership, organizational design, climate, development, and control. Utilizing a systems perspective, the course attempts to develop in each student an ability to analyze and solve organizational problems.

468(6680) Negotiating Workplace Conflict (3)
Prerequisites: PPA/MGMT 460(5600), and Graduate Standing. (Same as MGMT 419(5612) and Soc 468(5451). Examines conflict and cooperation between individuals, groups, and organizations over the control of work. A central theme is how this conflict is expressed, controlled, and resolved. Students will participate in exercises to learn the basics of two-party negotiations.

475(6750) Introduction to Evaluation Research Methods (3)
Prerequisites: At least one course in Research Design and Statistics at the graduate level. (Same as Psych 475(5475), Soc 475(5475), and CCJ 475(5475). A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental designs.

480(6800) Management Information Systems (3)
Prerequisite: Econ 301(3150). (Same as MS/IS 480(6800). An overview of management information systems is presented, including various information systems concepts and technologies. Students are introduced to a mainframe operating system, a microcomputer-based operating system, and a programming language. Students are also exposed to several common microcomputer-based software applications.

495 Internship (3)
Independent study involving work with an appropriate public, private, or nonprofit agency.

499(6990) Exit Project Research (1)
Prerequisites: Completion of or simultaneous enrollment in other degree requirement courses. The exit project is viewed as the capstone of the MPPA program. As such, it is meant to be undertaken toward the end of a student's program, usually during the final semester. Its purpose is to provide evidence to the faculty that the degree candidate has mastered the skills acquired in the various courses completed during residence at the University and can apply them to the analysis of a practical research problem.
Pierre Laclede Honors College
Pierre Laclede Honors College

The Pierre Laclede Honors College mission is to enrich significantly the educational experience of a select group of highly motivated and intelligent undergraduates. With this in mind, it enrolls promising students who give clear indication that they are ready to accept academic challenges and become creatively involved in the learning process.

Given this special mission, the college has a unique structure and identity. Unlike the university's other schools and colleges, it has no academic departments or areas of its own, and it grants no degrees. Instead, it brings together a cross section of the university's students and teachers in a special curriculum in which courses are designed to meet students' general education and other breadth of study requirements.

- A four-year program open to entering freshmen and extending over a student's entire undergraduate career;
- A two-year program open to a select group of third-year students who are either continuing at or have transferred to the university and are engaged in work on a major.

The Honors College Writing Portfolio
Both programs include participation in the Honors College writing program, Writing through the Curriculum, which involves formal courses in composition (including at least two of Honors 10(1200), 210(3100), and 310(4100) ) and informal consultations with the director of the writing program. In the final year, this culminates in the compilation of a personal Honors College writing portfolio.

Undergraduate Research
All Honors College students must fulfill a 6-credit-hour independent study requirement (see below under Curriculum). Many students meet all or part of this requirement by undertaking a research project supervised by faculty in their major department. Additional financial support is available for supervised undergraduate research projects in all majors.

Faculty
Honors College instructors are drawn from faculty in all academic divisions of the university but mainly from the "traditional disciplines" of the College of Arts and Sciences. What all these teachers share in common is a willingness to work closely with intellectually curious and academically high-achieving students. Faculty design courses directed toward such an audience and based on small discussion seminars. Thus the honors faculty is an organic body, growing each semester as new faculty join in the honors project. Their talents add to the Honors College's already rich instructional pool of more than 100 regular and full-time faculty, many of whose teaching and scholarship have been singled out for special professional and university awards.

Honors Scholars
Honors College scholars are our students, highly qualified and motivated individuals from a broad range of public and private secondary schools and colleges. They enter the college with diverse backgrounds and interests and remain part of it while simultaneously enrolling in classes and pursuing bachelor's degrees in other academic divisions of the university.

Most honors students major in the traditional liberal arts disciplines spanning the humanities, social sciences, mathematics, and natural sciences, but about a third focus on using their undergraduate education to prepare for careers in business, education, nursing, or engineering. Whatever their undergraduate majors, most Honors College students plan to go on to graduate study or professional schools, although a significant number successfully seek employment immediately after graduation. Honors faculty and staff provide advice and guidance in both course choice and career plans.

Curriculum
Pierre Laclede Honors College offers both a four-year program (for students admitted as freshmen) and a two-year program (for transfer students from within the UM-St. Louis or from outside the university).

Four-Year Program (40 credit hours total):
Approximately one-third of the 120 hours honors students earn toward graduation are taken in the Honors College or under its auspices. Most of these credits are associated with a sequence of honors courses designed specifically for the college, the majority of which are taken during the first two years. During this period, these students fulfill virtually all of the university's general education requirements, usually in innovative ways. In their junior and senior years, honors scholars also earn honors credit for work done within their major fields, work which includes the possibility of internships, independent study projects, and advanced undergraduate research.

First Year (15 credit hours):
Scholars take Honors 10(1100), 20(1200), and 30(1300), and one course each from the Western Traditions and Non-Western Traditions seminar series. Students may take a seminar from the American Traditions series as an elective or in place of either a Western or a Non-Western Traditions seminar.
10(1100), Freshman Composition
20(1200), Cities and Good Lives: Knowledge, Decisions, and Consequences.
30(1300), Critical Analysis
111-5(1110), The Western Traditions Series
121-5(1210), The American Traditions Series (elective)
131-5(1310), The Non-Western Traditions Series
Second Year (6 credit hours):
Scholars take two of the following Honors classes:
201(3010), Inquiries in the Humanities
202(2020), Inquiries in the Fine and Performing Arts
203(2030), Inquiries in the Social and Behavioral Sciences
204(2040), Inquiries in Mathematics and Computing
205(2050), Inquiries in the Sciences
206(2060), Inquiries in Business
207(2070), Inquiries in Education
208(2080), Inquiries in Nursing

Honors students in the four-year program may also take Honors 210(3100) to meet their advanced composition graduation requirement.

During the first two years, honors scholars will take additional course work in other areas, such as mathematics, natural science, foreign language, and major prerequisite classes to satisfy various university, Honors College, and specific degree requirements.

Third and Fourth Years (19 credit hours):
Honors scholars in the four-year program take at least four seminars (12 credit hours) from the Advanced Seminar (301-308)(3010-3080) and/or Research Seminar (351-358)(3510-3580) series. They may take more, and many do where this is compatible with their major and/or minor requirements. In addition, honors students do 6 credit hours in independent study projects, normally in or closely related to their major field. These independent study projects normally carry credit in the major, but can be done as Honors College independent study or research projects (Honors 390-399(4900-4990)). During the final year, students also take Honors 310(4100), a 1-credit capstone for the Honors College writing program.

Two-Year Program (22 credit hours total):
Scholars in this program will take a combination of Honors College courses and also earn honors independent study credit for work done in their major fields. The 22 credit hours must include 6 credits of independent study, as for the four-year program.

Third Year (9 credits):
During the first year of the two-year program, students take three honors seminars, including 210(3100), Advanced Composition: Writing the City; one course from the Inquiries series (201(2010)-208(2080)); one course from either the Advanced Seminar (301(3010)-308(3080)) or Research Seminar (351(3510)-358(3580)) series. In addition, 3 credit hours of independent study may be taken during this year, normally in or closely related to their major.

Fourth Year (7 credits):
The final year of the two-year program involves three courses chosen from the 200 and 300 level options, including 310(4100), the honors writing portfolio (1 credit hour) and at least one course chosen from the 301(3010)-
308(3080) or 351(3510)-358(3580) series. In addition, students will complete their independent study requirements with 3 or 6 hours of project, internship, or research work.

Other academic features and requirements.

Pass/Fail.
The satisfactory/unsatisfactory option does not apply to any course work undertaken for Honors College credit.

Admission and Retention.
To be considered for admission to either the two-year or four-year honors program, a candidate must file a special Honors College application as well as a general university application. These application forms and additional information concerning scholarship and stipend awards, general eligibility guidelines, and the admissions process are available from the Honors College administration office at (314)516-6870 or from the office of admissions.

Scholarships and stipends.
Every new freshman or transfer student admitted to the Honors College receives academic scholarship support. Scholars continue to receive these awards as long as they meet the criteria associated with their particular scholarship grant.

Good academic standing.
To remain in good standing, a student must maintain a cumulative GPA, in all his or her UM-St. Louis courses, of at least 3.2, and must continue to meet the requirements of the honors program for which he or she was initially admitted. Unless other arrangements have been made, Honors College students are also expected to be full time, that is, to register for and satisfactorily complete at least 12 credit hours per semester. Students wishing to enter the Honors College as part-time students, or to change to part-time status, must make prior arrangements with the Honors College dean.

UM-St. Louis: an Urban Land Grant Institution
Given its location in St. Louis, and because it is part of an urban land grant university, Pierre Laclede Honors College seeks to encourage awareness of the manifold benefits of pursuing an undergraduate education in a dynamic and varied urban community. This is accomplished partly through the Honors Curriculum (for instance, Honors 20(1200) and 210(3100) are focused on "the city") through facilitating cultural and other outings in the city, and by encouraging students to include in their academic program courses, research projects, and/or internships which exploit the university's manifold connections with city people and its partnerships with leading city institutions such as the Missouri Botanical Gardens, the Missouri Historical Society, and the Mercantile Library of St. Louis. Many honors students fulfill all or part of their independent study requirements working through such partnerships.
International Study and Other Exchange Programs
Honors students are encouraged to consider a semester's or a year's study at another institution. This can be done through the University's Center for International Studies, which administers exchanges with more than 70 universities in Europe, Africa, Asia, Australia, and South and Central America. Students in the Honors and International Business program are normally required to spend at least a semester abroad as an exchange student or on an approved international business internship.

Or students may, through the National Student Exchange, which is administered for the university by the Honors College, attend any one of more than 100 universities in the United States and Canada.
Course Descriptions

Please note that all honors courses are planned to fulfill UM-St. Louis graduation requirements, primarily in general education and the state requirement for American history and government. For further guidance on these requirements, please see the university general education matrix.

Selected Honors courses may also meet divisional area study requirements, for instance in international studies or cultural diversity. Please note also that several Honors courses in the 200- and 300-levels, can be used to fulfill major, minor, and certificate requirements, where that has been agreed by other divisions or departments of the university.

Honors course lists and descriptions, published each semester before the beginning of the registration period, identify clearly those seminars that fulfill these various requirements. When in doubt, students are urged to consult their Honors College advisor.

Important note: Unless otherwise indicated, all Honors seminars and courses require students to obtain the consent of the dean or associate dean of the Honors College at registration.

10(1100) Freshman Composition (3) [C]
Prerequisite: Consent of the dean of the Honors College. Theory and practice of writing expository prose. Emphasis on individual tutorial. Assignments will be linked with topics discussed in Honors 101.

20(1200) Cities and Good Lives: Knowledge, Decisions, and Consequences (3) [MI, SS]
Prerequisite: Consent of the dean of the Honors College. Introduces students to the city and to a wide range of academic disciplines relevant to acquiring knowledge about the city, to making decisions about the city, and to understanding the impact of those decisions on the lives of people who work, play, and live in the city. Involves students with city institutions, organizations, and people, and introduces several main disciplinary areas offered by the University of Missouri-St. Louis.

30(1300) Critical Analysis (3) [C, H]
Prerequisite: Consent of the dean of the Honors College. An introduction to the forms and techniques of rational discussion. The emphasis is on improving skills in identifying, analyzing, evaluating, and formulating arguments. Topics include deductive and non-deductive reasoning, causal analysis, analogical arguments, logical fallacies, vagueness and ambiguity, methods of definition, and argumentative writing.

111-115(1110-1150) Western Traditions (3)
Prerequisite: Consent of the dean of the Honors College. All Western Traditions seminars will be based on the reading and discussion of works of exceptional importance in the development of Western culture and civilization. The works to be discussed in each seminar will follow a central theme (defined by its particular relevance to the traditional academic disciplinary areas of the humanities, arts, social sciences, mathematics, or sciences) but will relate that theme to wider developments in Western Traditions and to the American concept of a liberal education.

111(1110) Western Traditions: Humanities [C, H].
112(1120) Western Traditions: Arts
113 (1130) Western Traditions: Social and Behavioral Sciences [C, SS]
114(1140) Western Traditions: Mathematics
115(1150) Western Traditions: the Sciences
121-125(1210-1250) American Traditions (3)
Prerequisite: Consent of the dean of the Honors College. Honors seminars in the American Traditions series involve readings and discussion of major importance in the development of the culture, politics, ideologies, and values which are or have been characteristic of the United States of America. Every American Traditions seminar will cover a broad range of time, and each may include contemporary issues. American Traditions 123(1230) (Social Sciences) satisfies the American history and government requirement, and any course in the American Traditions sequence may be taken to satisfy one of the core requirements for the American Studies minor.

121(1210) American Traditions: Humanities (C, H)
122(1220) American Traditions: The Arts
123(1230) American Traditions: Social and Behavioral Sciences (V, SS)
124(1240) American Traditions: Mathematics
125(1250) American Traditions: The Sciences

131-135(1310-1350) Non-Western Traditions (3)
Prerequisite: Consent of the dean of the Honors College. Study of Non-Western societies, "traditional" or "modern," offers a reminder that, however defined, "the West" does not encompass the full range of human potentiality whether in terms of culture, values, behavior or ideas. Based on reading of significant primary texts and/or important secondary works, these seminars remind us of the realities of human diversity and provide perspectives on our own world. Non-Western Traditions seminars may be used to satisfy cultural diversity general education requirements.
disciplinaty and will underscore the value of making connections between diverse areas of study. These courses will not usually require specific prerequisites, but may (with the consent of the appropriate department or division) be taken as major or minor courses. The course number may be repeated for credit whenever the topic is substantially different.

201-208(2010-2080) Honors Inquiries (3)
Prerequisite: Consent of the dean of the Honors College. Inquiries seminars focus on the particular contributions academic disciplines can make to relatively broad areas of inquiry, and reading, discussion, writing and where appropriate, laboratory work or field trips will enhance students' understanding of the strengths, frailties, and particular characteristics of one or more disciplinary strategies. Inquiries courses may be used to meet relevant General education requirements. Where special arrangements have been agreed, they can meet more specific departmental and divisional requirements. The course number may be repeated for credit whenever the topic is substantially different.

201(2010), Inquiries in the Humanities [C, H]
202(2020) Inquiries in the Fine and Performing Arts [C, H]
203(2030) Inquiries in the Social and Behavioral Sciences [SS]
204(2040) Inquiries in Mathematics and Computing [MS]
205(2050) Inquiries in the Natural Sciences [C, MS]
206(2060) Inquiries in Business
207 (2070)Inquiries in Education
208 (2080)Inquiries in Nursing

210(3100) Honors Advanced Composition: Writing the City (3)
Prerequisite: Consent of the Dean of the Honors College. Enhances critical thinking, research, discussion, and writing skills by focusing on the city of St. Louis and on the specific fields of study of those enrolled in the course. Issues such as depth and development of content, voice, style, tone, correct expression, and research techniques are among the topics emphasized. Students maintain a Commonplace Book of journals, drafts, and creative writings; they also submit a minimum of four formal papers. This course is required for transfer students (two-year Honors Program) and an elective for students on the four-year program. For students on either program, Honors 210(3100) meets the Advanced Composition requirement of the university.

301(3010) Advanced Honors Seminar in the Humanities
302(3020) Advanced Honors Seminar in the Fine and Performing Arts
303(3030) Advanced Honors Seminar in the Social and Behavioral Sciences
304(3040) Advanced Honors Seminar in Mathematics and Computing
305(3050) Advanced Honors Seminar in the Sciences
306(3060) Advanced Honors Seminar in Business
307 (3070) Advanced Honors Seminar in Education
308 (3080) Advanced Honors Seminar in Nursing

310(4100) Independent Portfolio Writing (1)
Prerequisites: Consent of the Dean of the Honors College and senior status. Open only to Honors College students and not acceptable for graduate credit. Students in this course will meet on a regular basis with the Director of Writing and other appropriate Honors faculty to revise and polish samples in the Honors writing portfolio which the student has compiled during his or her Honors College enrollment. With the assistance of the Director, the student will write an in-depth analysis of his or her writing and will select the best examples of writing in his or her Honors Portfolio. During this independent study, the student may request help with research skills, writing issues, or application procedures for post-graduate courses or employment. Required of all students admitted and enrolled after August 1998; optional for others.

351-358(3510-3580) Research Seminar (3)
Prerequisites: Consent of the Dean of the Honors College. Open only to Honors College students and not acceptable for graduate credit. Modeled on and for some students affording a preview of the postgraduate or professional research seminar, Honors Research seminars bring students face to face with primary research, as appropriate in the library, the laboratory, and/or field work, utilizing appropriate disciplinary perspectives and secondary reading. These courses may be cross-listed with other advanced courses in appropriate departments/divisions of the university, and as such may carry specific course prerequisites and/or require the specific consent of the instructor.
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351(3510) Research Seminar in the Humanities
352(3520) Research Seminar in the Fine and Performing Arts
353(3530) Research Seminar in the Social and Behavioral Sciences
354(3540) Research Seminar in Mathematics and Computing
355 Research Seminar in the Sciences
356(3560) Research Seminar in Business
357(3570) Research Seminar in Education
358(3580) Research Seminar in Nursing

390(4900) Independent Study in Honors (1-6)
Prerequisites: Consent of the Dean of the Honors College.
Open only to Honors College students and not acceptable for graduate credit. Most Honors students will fulfill their Honors independent study requirements in another department or division of the university. Where this is not possible, and where academic credit seems an appropriate reward for the independent study in question, the project may be undertaken as Honors 390(4900), normally as a 3-credit course. This will involve substantial reading, research, and/or field work, and will be supervised by a permanent member of the Honors College academic staff. Completed proposal forms for this course must be submitted to the Honors College no later than the deadline for university registration.

391-399(4910-4990) Honors Independent Research (3)
Prerequisites: Consent of the Dean of the Honors College.
Open only to Honors College students and not acceptable for graduate credit. Honors students who wish to conduct individual research projects under the supervision of a member of the university's regular or full-time faculty may register for undergraduate credit and receive financial support on a cost-of-research basis. Such projects will usually be given appropriate course numbers in the student's major (or minor) department. Where this is not possible or otherwise inappropriate, students may register for credit in the Honors 39XX Independent Research series. In order to qualify for financial support and academic credit, completed proposal forms, together with a brief description of the research project, must be approved and signed by an appropriate member of the faculty and submitted to the Honors College not later than the semester deadline for university registration. May be repeated for credit where the research topic/problem is substantially different or where it can be significantly extended. Faculty approval must be obtained for repeat credit.

391(4910) Honors Independent Research in the Humanities
392(4920) Honors Independent Research in the Fine and Performing Arts
393(4930) Honors Independent Research in the Social and Behavioral Sciences
394(4940) Honors Independent Research in Mathematics and Computing
395(4950) Honors Independent Research in the Sciences

396(4960) Honors Independent Research in Business
397(4970) Honors Independent Research in Education
398(4980) Honors Independent Research in Nursing
399(4990) Honors Independent Research in Engineering
Barnes College of Nursing and Health Studies
Barnes College Of Nursing And Health Studies

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RNC, MSN, NNP
* Members of Graduate Faculty
**Affiliated Adjunct Faculty

General Information

Barnes College of Nursing & Health Studies offers nursing studies at the undergraduate and graduate levels. Knowledge and skills needed to complete the professional licensure examination to become a registered nurse are available through a basic baccalaureate option. Nurses who have obtained their basic nursing education through associate degree or diploma nursing programs may complete the B.S.N. completion option without repetition of previous nursing education. The master of science in nursing program is offered in cooperation with the School of Nursing at University of Missouri-Kansas City. The Ph.D. in Nursing is offered in cooperation with the Schools of Nursing at University of Missouri- Columbia and Kansas City. Admission to the Ph.D. is available at the post B.S.N. and M.S.N. levels.

Undergraduate Studies

The Barnes College of Nursing provides course work leading to the Bachelor of Science in nursing. The program is accredited by the Commission on Collegiate Nursing Education and the Missouri Board of Nursing. The undergraduate program offers two means for achieving the bachelor’s degree in nursing: studies that are preparatory for completion of the professional nurse licensure examination (pre-licensure track) and advanced placement for the professional registered nurse without repetition of fundamental nursing courses (RN/BSN track). An accelerated prelicensure option is available for qualified persons who hold earned degrees in nonnursing fields, for outstanding students who have completed all prescribed general education and science course work, and for highly motivated, qualified high school graduates. Baccalaureate students meeting admission criteria may participate in the Pierre Laclede Honors College.
Admission Policies

Basic Baccalaureate
First-time freshman or students with fewer than 24 college credits:

- Admission to the university (see Undergraduate Admission and Application Procedure section in this Bulletin).
- Cumulative high school grade point average of 2.5 (4.0 scale).
- High school rank in upper third of graduating class.
- GED score, if applicable.
- ACT composite score of 21 or higher.
- Basic computer literacy prior to beginning nursing courses required in nursing major.
- Cumulative grade point average of 2.5 (on 4.0 scale) required prior to beginning nursing courses required in nursing major.
- Completion of a minimum of 45 semester hours of general education course work applicable to BSN degree NS010, NS 103(2103) (or equivalent), and NS 105(2105) (or equivalent) prior to beginning nursing courses required in nursing major.

Students with 24 or more college credit hours:

- Admission to the university (see Undergraduate Admission and Application Procedure section in this Bulletin).
- Minimum cumulative grade point average of 2.5 (4.0 scale) on 24 transferable credits from an accredited college or university.
- Cumulative grade point average of 2.5 (on 4.0 scale) required prior to beginning nursing courses required in nursing major.

Degree/Transfer Pathway to accelerated option

- Admission to the university (see Undergraduate Admission and Application Procedure section in this Bulletin).
- Baccalaureate or higher degree from regionally accredited college or university. Applicants not holding a baccalaureate degree must have completed 62 semester hours of general education academic credit before beginning the program, including prescribed course work, as evidenced by official transcript.
- Minimum grade point average of 3.0 on 4.0 scale for students with baccalaureate or higher degree or 3.2 on a 4.0 scale for students not holding a baccalaureate degree.
- Completion of all prerequisite general education and science courses for major in nursing with grade of C or higher.
- Two letters of recommendation that address applicant's ability to be a self-directed learner.

Post High School Pathway to the accelerated option

- Admission to the university (see Undergraduate Admission and Application Procedure section in this Bulletin).
- ACT score of 24 or higher
- Minimum high school grade point average of 3.2 on 4.0 scale.
- Two (2) letters of recommendation that address applicant's ability to be a self-directed learner
- Minimum cumulative grade point average of 3.2 on 4.0 scale on general education coursework prior to beginning nursing courses
- Completion of all prerequisite general education and science courses for the nursing major with grade of C or better.
- Completion of at least 45 semester hours of designated general education credits at UM-St. Louis, including credit earned through advanced standing.
- Basic computer literacy prior to beginning nursing courses required in nursing major.

Honors pathway

- Meet all requirements for admission to the traditional four-year option.
- Apply to the Pierre Laclede Honors College.

Admission to Nursing Clinicals requirements

- Basic computer literacy prior to beginning nursing courses required in nursing major.
- Completion of a minimum of 45 semester hours of general education course work applicable to BSN degree and NS010, NS 103(2103)(or equivalent) prior to beginning nursing courses required in nursing major.

RN/BSN

- Admission to the university (see Undergraduate Admission and Application Procedure section in this Bulletin.
- Graduate of either an accredited diploma or associate degree program in nursing.
- Evidence of current licensure as a registered nurse with eligibility for licensure in Missouri.
- Cumulative grade point average of 2.5 (4.0 scale)* on all previous college-level course work. (excluding nursing coursework)
- Minimum of 30 academic hours of college credit applicable to a degree.
- *Cumulative GPA of 3.0 required of individuals seeking accelerated access to MSN option.

Students are required to furnish their own transportation to and from campus and clinical agencies. Students must have automobile access for all community experiences through the program. For specific information regarding the B.S.N. degree program, contact Nursing Student...
Support Course Requirements
Nursing majors must complete all general education requirements of the university as outlined in this Bulletin (see Undergraduate Studies, General Education Requirements).

In addition to meeting the university’s general education requirements, the following specific courses must be completed prior to initiation of the nursing major. See a curriculum planning guide for specific courses and proper sequencing.

1) Natural science course work
Biology 113(1131), Human Physiology and Anatomy I
Biology 114(1141), Human Physiology and Anatomy II
Biology 116(1162), General Microbiology
Chem 5(1052), Chemistry for Health Professions (or equivalent)

2) Behavioral science course work
Psych 3(1003), General Psychology
Psych 268(1268), Human Growth and Behavior
Econ 40(1000), Introduction to American Economy (or equivalent)

3) Humanities
Phil 156(2256), Bioethics (or equivalent)

4) Nursing
Nursing 010, Orientation to Nursing
Nursing 103(2103), Nutrition and Health (or equivalent)

Bachelor of Health Sciences with Emphasis in Clinical Laboratory Science or Cytotechnology
The bachelor of health science degree (B.H.S.) is designed to prepare students for two career areas: clinical laboratory science (CLS) and cytotechnology (CT). The B.H.S. combines course work taken at UM-St. Louis with clinical experiences at Barnes Jewish Hospital and throughout the BJC Systems of member hospitals and clinics.

The clinical laboratory science program prepares students to perform analytical tests on body fluids, cells, and products. The students will learn to identify possible discrepancies in data, confirm abnormal results, and develop solutions to problems concerning the generation of laboratory data.

The cytotechnology program prepares students to be knowledgeable about all of the normal cells from numerous body sites, as well as those changes encountered due to neoplasia, infectious agents, viruses, and other causative agents. Graduates will be able to perform cytologic evaluations of body fluids, cells, and fine-needle aspirations.

Credit by Transfer and Examination
Credit may be granted for selected general studies. See Admission and Application Procedure section in this Bulletin for credit information.

Degree Requirements
The bachelor of science in nursing degree requires comprehensive course work in general education and nursing. Basic undergraduate nursing course work includes theory, on-campus laboratory and clinical activities. Clinical experiences require weekday, evening, and/or weekend commitments. Full-time study in the prelicensure baccalaureate track can be completed in four academic years. The prelicensure accelerated track requires full-time study and can be completed in 15 months. RN/BSN course work is offered via interactive telecommunication at various sites throughout eastern Missouri, on-campus, and by Internet. Clinical activities are community-based and may be completed in the student’s home community.

Satisfactory/Unsatisfactory
Undergraduate nursing majors may not take required related area general education or nursing courses on a satisfactory/unsatisfactory basis.

Credit by Transfer and Examination
Credit may be granted for selected general studies. See Admission and Application Procedure section in this Bulletin for credit information.

Degree Requirements
The bachelor of science in nursing degree requires comprehensive course work in general education and nursing. Basic undergraduate nursing course work includes theory, on-campus laboratory and clinical activities. Clinical experiences require weekday, evening, and/or weekend commitments. Full-time study in the prelicensure baccalaureate track can be completed in four academic years. The prelicensure accelerated track requires full-time study and can be completed in 15 months. RN/BSN course work is offered via interactive telecommunication at various sites throughout eastern Missouri, on-campus, and by Internet. Clinical activities are community-based and may be completed in the student’s home community.

Satisfactory/Unsatisfactory
Undergraduate nursing majors may not take required related area general education or nursing courses on a satisfactory/unsatisfactory basis.

Support Course Requirements
Nursing majors must complete all general education requirements of the university as outlined in this Bulletin (see Undergraduate Studies, General Education Requirements).

In addition to meeting the university’s general education requirements, the following specific courses must be completed prior to initiation of the nursing major. See a curriculum planning guide for specific courses and proper sequencing.

1) Natural science course work
Biology 113(1131), Human Physiology and Anatomy I
Biology 114(1141), Human Physiology and Anatomy II
Biology 116(1162), General Microbiology
Chem 5(1052), Chemistry for Health Professions (or equivalent)

2) Behavioral science course work
Psych 3(1003), General Psychology
Psych 268(1268), Human Growth and Behavior
Econ 40(1000), Introduction to American Economy (or equivalent)

3) Humanities
Phil 156(2256), Bioethics (or equivalent)

4) Nursing
Nursing 010, Orientation to Nursing
Nursing 103(2103), Nutrition and Health (or equivalent)
Courses in clinical laboratory science and cytotechnology are offered for students who are pursuing a career in one of these fields. Students develop a program of studies through the bachelor of health sciences degree.

The following courses are offered in this area through the Barnes College of Nursing and Health Studies. These courses are not acceptable for graduate credit:

Clinical Laboratory Science:
Courses (specific course or distribution area and credits):

Humanities (9):

State requirement (3):
BIO 011(1811), Intro Biology I (5)
BIO 113(1131), Anatomy & Physiology I (4)
BIO 114(1141), Anatomy & Physiology II (4)
BIO 116(1162), General Microbiology (4)
BIO 118, General Microbiology Lab (4)
BIO 234(3631), Histology and Microtech (5)
BIO 317(4842), Immunobiology (3)
BUS 103(1800), Intro to Computers (3)
BUS 210(3600), Mgt & Org Behavior (3)
CHEM 11(1111), Intro to Chemistry I (5)
CHEM 12(1121), Intro to Chemistry II (5)
CHEM 261(2612), Organic Chemistry I (3)
COM 30(1030) or 40(1040), Interpersonal or Public Speaking (3)
EN 010(1100), English Comp (3)
EN 213(3130), Technical Writing (3) OR EN 216(3160)
Writing in the Sciences (3)
MATH 30(1030), College Algebra (3)
MATH 35(1035), Trigonometry (2)
NS 110(3110), Pathophysiological Bases of Nursing Practice (3)
PSY 003(1003), General Psychology
PSY 268(1268), Growth and Development
SOC 10(1010), Intro to Sociology (3)

Clinical Requirements:
BIO 303a(4810), Issues and Trends in Role Development (3)
BIO 303b(4010), Clinical Bacteriology (3)
BIO 303c(4110), Bacteriology Practicum (4)
BIO 303d(4250), Parasitology and Mycology (2)
BIO 303e(4410), Clinical Immunology (2)
BIO 303f(4450), Immunology Practicum (1)
BIO 303g(4510), Immunohematology (3)
BIO 303h(4550), Immunohematology Practicum (3)
BIO 303i(4601), Hematology (4)
BIO 303j(4661), Hematology Practicum (3)
BIO 303k(4701), Clinical Chemistry (3)
BIO 303l(4750), Chemistry Practicum (4)
BIO 393(3807), Research Methods Health Sciences (3)

Clinical Laboratory Science:
Courses (specific courses of distribution area and credits):

Cytotechnology:
Courses (specific courses of distribution area and credits):

Humanities (9):

State requirement (3):
BIO 011(1811), Intro Biology I (5)
BIO 113(1131), Anatomy & Physiology I (4)
BIO 114(1141), Anatomy & Physiology II (4)
BIO 116(1162), General Microbiology (4)
BIO 118, General Microbiology Lab (4)
BIO 234(3631), Histology and Microtech (5)
BIO 317(4842), Immunobiology (3)
BUS 103(1800), Intro to Computers (3)
BUS 210(3600), Mgt & Org Behavior (3)
CHEM 11(1111), Intro to Chemistry I (5)
CHEM 310(1268), Growth and Development
CHEM 35(1035), Trigonometry (2)
NS 110(3110), Pathophysiological Bases of Nursing Practice (3)
PSY 003(1003), General Psychology
PSY 268(1268), Growth and Development
SOC 10(1010), Intro to Sociology (3)

Clinical Requirements:
HS 302a(4000), Intro to Cytology (3)
HS 302b(4100), Female Genital Tract I (4)
HS 302c(4200), Female Genital Tract II (3)
HS 302d(4300), Processing Lab (2)
HS 302e(4400), Respiratory and Order (3)
HS 302f(4600), Body Fluid Cytology (3)
HS 302g(4700), Gastro Genitourinary Cytology (3)
HS 302h(4800), Fine Needle Aspiration (4)
HS 302i(4900), Adv Practices in Cytology (12)
HS 302j(5200), Leadership and Mgmt Cytology (3)
HS 393(3807), Research Methods Health Sciences (3)

The B.H.S. curricula were developed in collaboration with the Jewish Hospital College of Nursing and Allied Health. Following are course descriptions for the cytotechnology clinical requirements.

Request for additional information concerning the B.H.S. degree and academic advising can be obtained through the Barnes College of Nursing and Health Sciences.
Graduate Studies

Cooperative Graduate Programs in Nursing

Master of Science in Nursing
The College of Nursing at St. Louis, in cooperation with the School of Nursing at University of Missouri-Kansas City, offers graduate nursing studies in three areas of clinical specialization:

• Health care of the adult.
• Health care of children.
• Health care of women.

This graduate program offers students three ways of completing the master of science in nursing degree: completion of a minimum of 36 credit hours with emphasis in the role of the nurse leader of health systems; and completion of a minimum of 43 credit hours with emphasis in the role of advanced practice nurse (clinical nurse specialist or nurse practitioner). Those selecting the practitioner functional role option will be eligible to complete national certifying examinations. Opportunities are also available for completion of post M.S.N. requirements leading to eligibility for practitioner certification. Graduates completing the clinical specialization or practitioner functional options are eligible for endorsement as advanced practice nurses in Missouri.

Admission Requirements

Nurse Educator:

• B.S.N. from an accredited nursing program or B.S.N. program comparable to UM-St. Louis College of Nursing and Health Studies B.S.N. degree.
• Minimum cumulative grade point average of 3.0 (4.0 scale).
• Current professional licensure with eligibility for licensure in Missouri.
• Successful completion of an undergraduate descriptive and inferential statistics course
6. Successful completion of an undergraduate health assessment course or equivalent
7. Computer literacy.
8. Basic cardiac life support certification

Nursing Leadership of Health Systems

• B.S.N. from an accredited nursing program or B.S.N. program comparable to UM-St. Louis College of Nursing and Health Studies B.S.N. Program
• Minimum cumulative grade point average of 3.0 (4.0 scale)
• Current professional licensure with eligibility for licensure in Missouri
• Successful completion of an undergraduate descriptive and inferential statistics course

Barnes College of Nursing and Health Studies

• Computer literacy
• Successful completion of an undergraduate health assessment course or equivalent
• Basic cardiac life support certification

Advanced Practice Nurse (Clinical Nurse Specialist or Nurse Practitioner)

• B.S.N. from accredited nursing program or B.S.N. program comparable to UM-St. Louis College of Nursing and Health Studies B.S.N. Program
• Minimum cumulative grade point average of 3.0 (4.0 scale)
• Current professional licensure with eligibility for licensure in Missouri
• Basic cardiac life support certification
• Successful completion of an undergraduate descriptive and inferential statistics course
• Successful completion of an undergraduate health assessment course
• Computer literacy

The Nurse Practitioner option also requires:

• Two letters of reference
• Narrative outlining goals.
• Two years of clinical experience with chosen population

Availability of clinical resources may limit the number of applicants accepted to the practitioner option.

Degree Requirements

Nurse Educator
405(6105), Values in Health Care Decision Making
406(6106), Policy, Organization, and Financing of Health Care
408(6108), Health and Society
409NE(6309), Role of the Nurse Educator
410(6140), Health Promotion Across the Life Span
411(6111), Theoretical Foundations of Nursing Practice
412(6112), Quantitative Methods of Nursing Research
414(6114), Research Utilization in Nursing
420(6320), Nursing Program and Curriculum Development
421(6321), Instructional Strategies in Nursing Education
452(6952), Synthesis Practicum
EDUC 410(6410), The Adult Learner
ED REM 420(6707), Classroom Measurement and Evaluation OR
ED REM 421(6709), Educational and Psychological Measurement

Nursing Leadership of Health Systems
405(6105), Values in Health Care Decision Making
406(6106), Policy, Organization and Financing of Health Care
408(6108), Health and Society
409NL(6409), Role of the Nurse Leader
410(6140), Health Promotion Across the Life Span
Admission Requirements
Applicants must meet the following:

- Graduate of CCNE Baccalaureate program or equivalent with 3.2 minimum GPA (4.0 scale).
- Graduate of CCNE Master's program or equivalent with 3.5 minimum GPA (4.0 scale).
- GRE (composite score of 1500 or better desired).
- Three letters of reference.
- Original essay (37 pages) addressing doctoral study and research interests related to Health Promotion and Protection, Health Restoration and Support, and/or Health Care Systems.
- Interview by invitation contingent on ranking related to above criteria.

Degree Requirements
While each program of study is individualized, B.S.N graduates complete a minimum of 72 hours of graduate-level course work that include a minimum of 12 hours for the dissertation. M.S.N. graduate course work which supports the chosen substantive area is individually evaluated to determine eligibility for transfer. The following defines the overall structure of the program:

Modes of Inquiry
Research and Inquiry, 8-16 hours external to the College of Nursing, such as advanced statistics, research design, computer applications, or philosophical foundations of science.

Nursing Research and Inquiry, 8-16 hours within the College of Nursing, such as advanced quantitative nursing research design, advanced qualitative nursing research design, health survey methods, issues in research design, doctoral seminar.

Dissertation, 12 hours.

Nursing Content Areas

Nursing Theory Analysis and Development, 8-16 hours within the College of Nursing which advances the chosen substantive area, such as conceptual structures, nursing practice models, theory development, theoretical foundations, doctoral seminar.

Nursing Applied Sciences, 8-16 hours within selected substantive area.

Collateral Support Courses, 12 hours external to the College of Nursing which support selected substantive area.

The Ph.D. in nursing program at the University of Missouri-St. Louis affords students with academic, clinical, and research resources of the University of Missouri system through a cooperative arrangement with the Schools of Nursing in Kansas City and Columbia.

Students receive a strong foundation in scientific inquiry with a focus on a clinically relevant area for scholarship and research, hands-on research skills, strategies to promote nursing scholarship, and knowledge of the discipline of nursing. The program provides knowledge in theories, research methods, and empirical findings related to nursing science and advanced nursing practice.
Professional Organizations

Sigma Theta Tau
The college is an official chapter--Nu Chi--of Sigma Theta Tau International Honor Society. Membership is offered by invitation to those students graduating the upper third of their class and to those recognized as outstanding community nursing leaders.

Student Nurses' Association
The College of Nursing is a constituent of the national Student Nurses' Association. The purpose of this organization is to provide a means for nursing students in the basic baccalaureate program the opportunity to connect with the nursing profession prior to licensure.

Black Student Nurses' Association
The College is a constituent of the Black Student Nurses' Association. The purpose of this organization is to provide black nursing students in the prelicensure baccalaureate track the opportunity to serve as a support group for African-American students, collaborate with other African-American groups to compile archives relevant to African-American nurses, and to promote participation in interdisciplinary activities.

Continuing Education-Extension
Continuing Education offerings in the field of nursing are currently presented to provide nurses with new information, techniques, and trends within the nursing profession.
Course Descriptions

All previous level nursing courses must be successfully satisfied prior to progressing to the next level nursing courses.

10(0100) Orientation to Professional Nursing (0)
Prerequisites: Admission to four-year baccalaureate program. Mandatory six-week introduction to the nursing program provides a comprehensive orientation to the program. Students are introduced to the academic and clinical expectations of the curriculum. Concerns critical for academic success (i.e., time management, effective study skills, stress management and dealing with test anxiety) are addressed.

100(2100) Introduction to the Nursing Discipline (3)
This course introduces the historical and theoretical development of nursing as a discipline. Nursing is examined as an emerging practice profession. Variables that influence nursing and health care are discussed. Concepts and skills introduced in this course guide the student's educational experience within the nursing major.

101(3101) Nursing and Health (6)
Prerequisites: Biology 114(1141), Biology 116(1162), Chemistry 5(1052), Nursing 10; pre- or co-requisite: Nursing 106(3106), Nursing 110(3110), Nursing 111(3111). An introduction to the discipline of nursing, the historical and theoretical development of nursing is explored with an emphasis on critical thinking, the teaching/learning process, and foundational practice concepts. Through modular laboratory experiences, the student acquires psychomotor skills to provide safe and effective nursing care to clients promoting health and wellness. Includes classroom, laboratory and clinical experiences.

103 (2103) Nutrition and Health (3)
This course examines the nutritional needs throughout the life span with emphasis on nutritional principles related to health promotion and protection. Content includes assimilation, digestion and absorption of nutrients and cultural and economic influences on dietary practices.

105(2105) Communication in the Nursing Profession (3)
Prerequisite: None. This course focuses on the development of communication abilities utilized in professional nursing. The individual's relationship with self, others, and groups is discussed. Students learn verbal and non-verbal communication skills, self-awareness, and sensitivity to others. Interpersonal skills are introduced to enable the student to develop effective human caring relationships with a diverse population of clients and colleagues.

106(3106) Assessment of Clients in Health and Illness (3)
Prerequisite: Biology 114(1141) Biology 116(1162), Chemistry 5(1052), Psychology 268(1268), Nursing 10(0100). This course integrates theoretical knowledge and interpersonal skills in the assessment of clients, focusing on differentiating normal from abnormal findings. It emphasizes the use of problem solving, critical thinking and cultural competency in identifying multidimensional health variations across the life span. The course includes classroom and laboratory experiences.

110(3110) Pathophysiological Bases of Nursing Practice (3)
Prerequisite: Biology 114(1141), Biology 116(1162), Chemistry 5(1052) (or equivalent), Nursing 10(0100). This course focuses on the nature of disease, its causes, and the bodily changes that accompany it. Includes a study of general principles of disease, specific diseases of individual organs and systems and the clinical implications.

111(3111) Pharmacotherapeutics in Nursing Practice (3)
Prerequisite: Biology 114(1141), Biology 116(1162), Chemistry 5(1052), Nursing 10(0100); pre/co requisite: Nursing 110(3110). This course introduces key terminology, legal foundations, general principles and clinical applications of pharmacology.

200(3900) Dimensions of Professional Nursing Practice (3)
Prerequisites: Admission to the College of Nursing as RN. Investigates the roles and responsibilities of the professional nurse within a rapidly changing health care delivery system. Key issues are explored with emphasis on health promotion and health. Graduates of diploma nursing programs will be awarded college credit for successful validation of basic nursing knowledge as part of this course.

205(3205) Adult Health Nursing I (5)
Prerequisite: All 100 level nursing courses, Psych 268(1268) This course focuses on the nursing care of the adult experiencing selected pathophysiological processes affecting body regulatory mechanisms. These mechanisms are related to immune responses, problems of oxygenation, ventilation, transport and perfusion; kidney function; regulatory mechanisms and digestion, absorption and elimination. Emphasis is placed on health restoration, maintenance and support as well as the continued development of the nurse-client relationship, critical thinking processes, and research-based nursing practice. This course includes classroom and clinical activities in a variety of settings.
206(3206) Adult Health Nursing II (5)
Prerequisite: All 100 level nursing courses, Psych 268(1268). This course focuses on the nursing care of the adult experiencing selected pathophysiological processes affecting body regulatory mechanisms. These mechanisms are related to endocrine, sensory-perceptual, gynecological, and genitourinary functions. Emphasis is placed on health restoration, maintenance and support as well as the continued development of the nurse-client relationship, critical thinking processes, and research-based nursing practice. This course includes classroom and clinical activities in a variety of settings.

207(3807) Nursing Research (3)
Prerequisite: Nursing 373(3799) (or equivalent). This course introduces the values and characteristics of quantitative and qualitative research within an ethical perspective. Students examine the research process through analysis and critique of nursing research.

214(3214) Psychiatric Mental Health Nursing (4)
Prerequisite: All 100-level nursing courses; Psychology 268(1268). This course focuses on health and illness across the lifespan of clients who have acute and chronic emotional and psychosocial difficulties and psychiatric illnesses. The course emphasizes development of students' decisional capabilities, self-awareness and professional behaviors as they utilize theory and research from nursing, psychology and related disciplines for the provision of nursing care to individuals, families and groups. Clinical experiences in community and acute care settings are designed for students to engage in individual and group strategies that promote and maintain mental health. Course includes classroom and clinical activities in a variety of settings.

215(3215) Nursing of Women and Childbearing Families (4)
Prerequisite: All 100 level nursing courses, Psychology 268(1268). This course focuses on the childbearing family and women's reproductive health, including family dynamics and growth and development. Health promotion, protection, maintenance and restoration are covered in experiences that include hospital and community settings. Health care policy and systems as relevant to these populations are included. Course includes classroom and clinical activities in a variety of settings.

216(3216) Child and Family Health Nursing (4)
Prerequisite: all 100 level nursing courses, Psychology 268(1268). This course focuses on pediatric health and illness with emphasis on family dynamics, growth and development and communication with children and their families. Health promotion, protection, restoration, maintenance and support concepts are covered in experiences that include hospital and community settings. Health care policy and systems are studied as relevant to this population. Course includes classroom and clinical activities in a variety of settings.

217(3817) Information Systems Utilized in Health Care (3)
Prerequisite: None. This laboratory course establishes competency in health information systems. The course incorporates the impact of information systems on health care delivery.

220(3920) Health Assessment (3)
Prerequisites: Nursing 200(3900) and Nursing 217(3817) (may be taken concurrently) or consent of instructor. This laboratory course focuses on the knowledge, communication abilities, and technical skills necessary for comprehensive assessment of individuals of all ages.

300(4300) Community Health Nursing (4)
Prerequisites: All 200-level nursing courses. This course provides a conceptual foundation for nursing that recognizes the community as client in society. The course examines socioeconomic, environmental, epidemiological, and legislative influences, ethical/legal issues, and the impact of health beliefs and practices on health promotion and protection in communities and society. The student applies various theories and concepts when encountering families, groups and communities with diverse value systems and cultural backgrounds. Course includes classroom and clinical activities in a variety of settings.

301(4901) Family and Community Nursing (5)
Prerequisites: Nursing 200(3900), 217(3817) and 220(3920). This practicum course introduces the concepts, principles, skills, and professional nursing roles essential to practice community-based professional nursing with families and groups.

304(3804) Ethical and Legal Dimensions of Nursing Practice (3)
Prerequisites: Philosophy 156(2256) or equivalent. This course explores the ethical and legal dimensions of nursing practice. The relationship between ethical and legal issues is examined within nursing situations. The student participates in dialogue addressing ethical-legal issues in professional nursing practice to explore personal value, increase sensitivity to others and to develop ethical reasoning abilities.

305(4905) Values in Professional Nursing (3)
Prerequisites: All 200 level RN/BSN nursing courses or consent of instructor. Explores values and beliefs as they shape professional nursing practice and influence clinical decision making and interventions in the evolving healthcare system. Attention is given to the impact of sociocultural factors and health/illness beliefs and practices of the diverse populations served by the professional nurse. Students examine their own understanding of the moral nature of professional nursing within the context of a diverse society.
308(3808) Management and Leadership in Nursing (3)
Prerequisites: All 200-level nursing courses; Economics 40(1000) or equivalent. This course prepares the nurse to coordinate and manage client care in diverse health care settings. Emphasis is placed on leadership and management theory and related skills, collaboration, delegation, coordination, and evaluation of multidisciplinary work and the application of outcome-based nursing practice.

310(4310) Senior Synthesis (5)
Prerequisites: all 200-level nursing courses, Nursing 300(4300) and 308(3808) may be taken concurrently. This course integrates theory and practice from previous nursing and general education courses with the goal of preparing the student for entry into professional nursing practice. Within a seminar context, students explore a variety of clinical and professional nursing topics. The course includes research-based strategies utilized for health promotion and protection, health restoration, maintenance and support. Areas of study are selected from across the lifespan, including diverse populations in a variety of health care systems. Course includes classroom and clinical experiences in a variety of settings. Not for graduate credit.

311(4911) Synthesis in Nursing Practice (5)
Prerequisites: Nursing 301(4901). This practicum course focuses on community-based application and synthesis of professional nursing roles and responsibilities with selected populations determined to be at risk for a variety of health related problems. The course includes assessment of cognitive and affective growth achieved while in the BSN Completion Program.

320(4720) Perioperative Nursing (2)
Prerequisite: Consent of instructor. Provides experiences in preoperative, intraoperative, and postoperative settings. Includes a clinical component.

322(4722) Transcultural Nursing (3)
Prerequisite: Consent of instructor. Examines transcultural nursing concepts, theories and practices in relationship to human caring. Focuses on application and analysis of health care and scope of practice within selected cultural contexts. Includes practicum experiences.

325(4725) Education and the Psychology of Human Sexuality (3)
(Same as Ed Psy 325(3525). The course is designed to provide educators and other human services personnel with knowledge and understanding of various personal and social dimensions of human sexuality.

338(4338) Sociology of Health (3)
(Same as Sociology 338(4338). Prerequisites: Sociology 10(1010) and junior standing. Exploration of social dimensions and issues related to health and illness such as access to the health care delivery system; factors influencing prevention, utilization, and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

341(4741) Advanced Nursing Assessment and Management of Clients with Cardiac Dysrhythmias (3)
Prerequisite: Senior status. Focuses on advanced nursing assessment and management of clients with cardiac rhythm problems and conduction disturbances. Includes a clinical component.

342(4742) Critical Care Nursing of the Adult (3)
Prerequisite: RN or completion of N 205(3205) and 206(3206) or equivalent. Focuses on health restoration, health maintenance, and health support of individuals with dysfunctions or trauma to major organ systems. Emphasis is on understanding pathophysiology and psychosocial processes related to nursing and collaborative interventions, and the development of a functional framework for data organization and analysis.

352(4752) Primary Care Nursing (3)
Prerequisites: Completion of all junior level courses; Corequisite: Nursing 311(4911). This course introduces the role of the advanced practice nurse as a principal provider of primary health care to families across the lifespan. Major issues relate to health care provided in a variety of community settings are addressed.

365(4765) Women's Issues in Health Care (3)
This course is open to nursing majors and other persons interested in women's issues in health care. This seminar offers students the opportunity to explore women's issues in health care from the perspectives of both providers of health care and consumers of health care. Wellness, rather than pathology, is the emphasis of discussion of specific health care issues related to women. Student interest will determine specific issues to be examined.

370(4770) Topics in Nursing (1-3)
Prerequisite: Consent of instructor. Explores special topics in the areas of clinical practice, nursing education, nursing administration, and professional development. No more than six hours may be taken under this option.

373(3799) Quantitative Analysis in the Health Sciences (3)
Prerequisite: Math 30(1030) or equivalent. This course focuses on concepts and applications of statistics in the health sciences. Topics include descriptive and inferential statistics, probability distributions of random variables, sampling and estimation. The course uses examples and content from health sciences to provide the basic concept structure for quantitative analysis.
399(3873) Guided Study in Nursing (1-3)
Prerequisite: Consent of instructor. This course is an in-depth independent study of selected topics in nursing under the guidance of a specific instructor. No more than six hours may be taken under this option.

401(5000) Health and Wellness in the Elderly (3)
Prerequisite: Graduate standing and consent of instructor. (Same as Gerontology 401(6401). Factors contributing to longevity and health in old age, including genetic predisposition, lifestyle, culture, and environment are related to aspects of maintaining health and promoting wellness. Through a holistic approach, explores aspects of nutrition, exercise and activity, prevention of hazards to health, maintaining self-responsibility, managing stress, and meeting continued developmental, emotional and spiritual needs. Considers cross-disciplinary interventions to promote health and wellness in the elderly. Introduces the "Putting Prevention into Practice" model adapted to health promotion in the elderly.

405(6105) Values in Health Care Decision Making (2)
Prerequisite: Admission to MSN program. This course explores values and beliefs as they shape professional nursing practice and influence clinical decision making. The course includes analysis of health care systems and how the values underpinning these systems influence nursing interventions and nursing care delivery.

406(6106) Policy, Organization and Financing in Health Care (2)
Prerequisite: Admission to MSN program or consent of instructor. This course presents an overview of health care policy, organization and financing and how they impact professional nursing practice. Attention is given to the relationship between current health care trends and improving nursing health care delivery and client care outcomes.

408(6108) Health and Society (2)
Prerequisite: Admission to the MSN program. This course addresses issues relevant to developing an understanding of the wide diversity of cultural influences on human behavior, including ethnic, racial, gender, and age differences. Emphasis is on recognizing and appropriately addressing comprehensive health care needs and implications for nursing interventions.

409NE(6309) Role of the Nurse Educator (3)
Prerequisite: Admission to the MSN program or consent of instructor. Examines roles and responsibilities of the nurse educator in a variety of settings.

409NL(6409) Role of the Nurse Leader (3)
Prerequisite: Admission to the MSN program or consent of instructor. Examines roles and responsibilities of the nurse leader in a complex health care system.

409NS/NP(6509) Role of the Clinical Nurse Specialist/Nurse Practitioner (2)
Prerequisite: Admission to the MSN program. In this course, the student explores professional role issues affecting advanced practice nurses (APNs). The course facilitates the role development of nurses who desire to function as primary care providers (nurse practitioners) or as specialists within a particular clinical area (clinical nurse specialists). Core concepts include: communication, collaboration, advocacy, negotiation, standards of practice, and subroles of advanced nursing practice.

410(6140) Health Promotion Across the Life Span (3)
Pre or corequisite: Nursing 411(6111). This course is designed to provide students with a conceptual basis of health promotion and health protection for clients across the life span. Clients are conceptualized as individuals, families and populations. An application of various developmental theories for the child, adult, older adult, and family will provide the basis to individualize health care needs for various age and family groups. Core concepts include theories of health, health promotion and protection, epidemiology, disease and injury prevention, health education, growth and development, nutrition, and family systems theory.

411(6111) Theoretical Foundations in Nursing (3)
Prerequisite: Admission to the MSN program. This course analyzes major concepts and theories relevant to nursing. Ethical issues and dilemmas inherent in advanced nursing practice are also addressed.

412(6112) Quantitative Methods in Nursing Research (3)
Prerequisites: Nursing 373(3799) or equivalent; Nursing 411(6111) (may be taken concurrently). This course provides the principles and techniques common to scientific investigation as applied to nursing. A plan of study for a nursing problem is developed.

414(6114) Research Utilization in Nursing (3)
Prerequisites: N 412(6112). This course prepares nurses to implement a research utilization model to validate practice. The theoretical basis for research utilization and practical instances of its application in nursing is examined. Opportunities are provided to develop a research utilization plan to address a clinical area of practice.

417(5100) Nursing Case Analyses in Acute and Critical Care of the Elderly (3)
Prerequisite: N451(5110),440(6748),442(6742). From clinical practice with elderly, case analyses of acutely and critically ill elderly are developed and discussed in seminar. This is a clinical course.
418(6518) Pathophysiology for Advanced Nursing Practice (3)
This course focuses on implications for advanced nursing practice through examination of selected pathophysiological phenomena which occur frequently in the diverse populations to whom advanced nurses provide care.

418P(6519) Advanced Pediatric Pathophysiology (3)
This course focuses on embryology of the major organ systems, as well as specific physiologic and pathophysiologic processes relevant to the child from birth through age 18. Implications for advanced nursing practice which result from alterations of normal physiologic functioning in cellular, tissue, and organ systems are examined. Emphasis is placed on the relationship between pathophysiology, decision making, and standards of advanced nursing practice.

420(6320) Nursing Program and Curriculum Development (3)
Prerequisite: Nursing 409NE(6309). Identifies and analyzes factors that determine content and organization of curricula in nursing programs and health care agencies. Addresses principles and processes for initiating and revising curricula. Examines systematic evaluation of curriculum at all levels.

421(6321) Instructional Strategies in Nursing Education (3)
Prerequisite: Nursing 420(6320) or consent-of instructor. Focuses on analysis and development of teaching and learning strategies and skills in nursing education. Considers relationship of content and learning style to instructional methods utilized. Attention given to integration of technology in instructional design and delivery. Techniques for evaluating learner and teacher also explored.

424(6524) Health Assessment for Advanced Nursing Practice (3)
Prerequisite: N418(6518)(may be taken concurrently). Designed to provide a systematic approach to the advanced assessment of physiological, psychological, sociocultural, developmental and spiritual assessment of individuals across the lifespan. This course builds on basic health assessment knowledge and skills, emphasizing advanced assessment skills, laboratory work interpretation, validation, documentation and analysis of assessment findings.

426(6426) Health Resources Management (3)
Prerequisite: Nursing 409NL(6409). Focuses on roles and responsibilities of nurse leader for fiscal and human resource management in both public and private sectors. Includes analysis of environment, health care organization within the system, and impact of resource management on nursing and health care.

427(6520) Pharmacology for Advanced Nursing Practice (3)
Prerequisite: Nursing 418(6518) or equivalent or consent of instructor. This course centers on clinical pharmacotherapeutics used for primary health care management. Emphasis is placed on the clinical use of drugs in the management of specific illnesses.

427N(6528) Pharmacology for the Neonate (3)
Prerequisites: 418N or consent of the instructor. Pharmacological agents used in the management of neonates are discussed. Pharmacologic principles are reviewed and applied to the use of drugs in the level II or III NICU. The clinical use of drugs in the management of specific illnesses of the neonate are explored. In addition, legal considerations for the Advanced Practice Nurse are stressed.

428(6428) Theory and Practice in Nursing Leadership (3) Prerequisite: Nursing 409NL(6409). Focuses on theories and practices of advanced nursing leadership and management within complex health care organizations.

439(6739) Adult Primary Care I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: N 405(6105), 406(6106), 408(6108), 410(6140), 411(6111), 412(6112), 418(6518), 424(6524), 427(6520); N409NS/NP(6509) & N 414(6114) may be taken concurrently. Clinical course designed to provide a theoretical and practical base for advanced practice nursing students to diagnose and manage health problems of adults. Emphasis is placed on clinical assessment and decision-making in the provision of direct patient care within a defined scope of practice. The student is expected to clinically apply the concepts and theories discussed in class in the advanced nursing care of adults who are experiencing problems related to the upper and lower respiratory system, cardiovascular system, gastrointestinal system, skin and infectious diseases. Clinical experiences are designed to enhance assessment and technical skills needed in diagnosing common health problems.
440(6740) Adult Primary Care II: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: N 439(6739). Clinical course designed to provide a theoretical and practical base for advanced practice nursing students to diagnose and manage health problems of adults. Emphasis is placed on clinical assessment and decision-making in the provision of direct patient care within a defined scope of practice. The student is expected to clinically apply the concepts and theories discussed in class in the advanced nursing care of adults who are experiencing problems related to the musculoskeletal, neurological, endocrine/metabolic, genitourinary, reproductive systems, the eye, and mental health. Clinical experiences are designed to enhance assessment and technical skills needed in diagnosing common health problems.

441(6741) Family Health I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: N406(6106), 408(6108), 410(6140), 411(6111), 412(6112), 418(6518), 424(6524), 427(6520),409 NS/NP & N414(6114) may be taken concurrently. Clinical course designed to provide students with the opportunity to gain the concepts and skills essential to advanced practice nursing care of families experiencing acute and chronic health problems, with particular focus on women's and children's health issues. Emphasis is given to those health needs most commonly encountered by the Family Nurse Practitioner. A research- and theory-based approach to nursing interventions is used. Core concepts include family adaptation to acute and chronic conditions, health promotion, clinical decision-making and ethical decision-making.

442(6742) Family Health II: Diagnosis and Management in Advanced Nursing Practice (5)
Prerequisites: N441(6741). Clinical course designed to provide students with the opportunity to gain the concepts and skills essential to advanced practice nursing care of families experiencing acute and chronic health problems, with particular focus on adult clients. Emphasis is given to those health problems most commonly encountered by the Family Nurse Practitioner. A research- and theory-based approach to nursing interventions is used. Core concepts include family adaptation to acute and chronic conditions, health promotion, clinical decision-making, and ethical decision-making.

443(6743) Child Health I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: N405(6105), 406(6106), 408(6108), 410(6140), 411(6111), 412(6112), 418(6518), 424(6524), 427(6520), N409 NS/SP & N414(6114) may be taken concurrently. Clinical course designed to provide students the opportunity to apply skills from advanced physical assessment, pathophysiology, pharmacology, and theory to advanced nursing care of the child and family. Emphasis is placed on using models and theories that guide advanced practice care for clients with common pediatric problems. Implications of the developmental stage of the child and family, level of developmental skills and developmental problems for the maintenance of health and developmental problems for the maintenance of health and management of illness by the APN nurse are discussed. Core content includes information related to APN management of cultural and ethnic variations of growth and development problems; health maintenance; common pediatric behavioral problems; and recognition of circumstances that require interdisciplinary collaboration and referral. Clinical practice opportunities are arranged in collaboration with the instructor and planned in a variety of pediatric settings.

444(6744) Child Health II: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisite: N443(6743). Clinical course designed to provide students the opportunity to apply skills from advanced physical assessment, pathophysiology, pharmacology, and theory to advanced nursing care of the child and family. Emphasis is placed on using models and theories that guide advanced practice care for clients with common pediatric problems. Implications of the developmental stage of the child and family, level of developmental skills and developmental problems for the maintenance of health and management of illness by the APN nurse are discussed. The SOAP format is used and includes pertinent history, physical examination, laboratory findings and differential diagnosis relevant to the individual client. Focus is on development of a plan of care that encompasses the various treatment modalities used in managing common pediatric health problems including specific pharmaceutical and symptomatic treatment. Clinical practice opportunities are arranged in collaboration with the instructor and planned in a variety of pediatric settings.
446(6746) Women's Health I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: N405(6105), 406(6106), 408(6108), 410(6140), 411(6111), 412(6112), 418(6118), 424(6524), 427(6520), N409NS/SP & N414(6114) may be taken concurrently.
Clinical course designed to provide students the opportunity to apply knowledge and skills from advanced physical assessment, pathophysiology, pharmacology, and theory to advanced nursing care of women and families throughout the childbearing continuum. Emphasis is placed on using models and theories that guide advanced nursing practice and research-based care. Focus is on educating the advanced practice nurse to collaborate with women and their families to promote health and prevent disease. Within this context, the focus is on assessing, diagnosing, and planning care for women and families experiencing an uncomplicated childbearing continuum, as well as acute and/or chronic health care problems during preconception, pregnancy and the postpartum period, within a health promotion framework. The format includes pertinent history, physical examination, laboratory findings and differential diagnoses relevant to the individual client. Core concepts include adaptation of women through developmental stages, health risk assessment, health promotion, disease prevention, health education, primary care of women throughout the childbearing continuum, reproductive options, ethical decision-making, and grief and loss.

447(6747) Women's Health II: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisite: N446(6746). Clinical course designed to provide students the opportunity to apply knowledge and skills to advanced practice nursing care of women and families throughout the lifespan. Emphasis is placed on using models and theories that guide advanced nursing practice and research-based care. Focus is on educating the advanced practice nurse to collaborate with women and their families to promote health and prevent disease. Within this context, the focus is on assessing, diagnosing, and planning care for women, as well as women experiencing common health problems within a health promotion framework. The format includes pertinent history, physical examination, laboratory findings and differential diagnoses relevant to the individual client. Core concepts include adaptation of women through developmental stages, health risk assessment, health promotion, disease prevention, health education, primary care of well women, ethical decision-making, and grief and loss. Focus is on the development of a plan of care that encompasses the various treatment modalities used in managing common women's health problems including specific pharmacological and non-pharmacological therapies.

451(5110) Nursing Assessment of the Elderly (3)
Prerequisite: N424(6524). Practice in adaptations of the traditional health history and physical examination of adults is addressed in this course focusing on the elderly.
This is a clinical course, requiring a geriatric physician or advanced practice nurse preceptor.

452(6952) Synthesis Practicum (3)
Prerequisites: All required courses in Nurse Educator or Nursing Leadership of Health Systems option or consent of instructor. Serves as opportunity to operationalize role of nurse educator or nurse leader in selected academic and/or clinical settings. Includes frequent clinical seminars.

454A(6954) Advanced Practice Nursing: Internship I (2)
Prerequisite: All required courses in the Advanced Practice Nurse option or consent of instructor. Provides opportunity to initiate the Advanced Practice Nurse role with selected populations. Students participate in precepted experiences with clinical nurse specialists, certified nurse practitioners, and/or primary care physicians for a minimum of 225 hours. Frequent clinical seminars included.

454B(6955) Advanced Practice Nursing: Internship II (2) Prerequisite: 454A(6954). Continuation of precepted clinical experiences with selected populations initiated in Nurse 454A(6954). Students satisfy a minimum of 225 precepted hours with clinical nurse specialists, certified nurse practitioners, and/or primary care physicians and participate in frequent clinical seminars.

454C(6956) Advanced Practice Nursing: Internship III (2) Prerequisite: All required courses in the Advanced Practice Nurse neonatal option or consent of instructor; may be taken concurrently with Nursing 454A(6954) and Nursing 454B(6955). Serves as culminating precepted experience for students enrolled in the neonatal nurse practitioner option. Students work within Level III neonatal unit with certified neonatal nurse practitioners and/or neonatologists for a minimum of 150 clinical hours. Must be taken final semester of study.

457(6115) Qualitative Methods in Nursing Research (3)
Prerequisites: Nursing 411(6111) and 412(6112) or equivalent. This course introduces the skills necessary to understand and conduct qualitative research in nursing. Emphasis is placed on utilization of qualitative research methods in the study of selected nursing problems.

462(5100) Nursing Case Analyses in Long-term Care of the Elderly (3)
Prerequisite: N451(5110), 440(6740) or 442(6742). From clinical practice with the elderly, nursing case analyses in long-term care of commonly living/frail elderly and nursing care of elderly in residential long-term care are developed. This is a clinical course, requiring an approved preceptor.
470(6870) Special Topics in Advanced Practice Nursing (1-3) Prerequisite: Consent of Instructor. Explore special topics for the advanced practice nurse in the areas of research, theory, education, and administration. No more than three hours shall be applied toward the degree. This course is for graduate MSN or Ph.D. levels.

473(6220) Measurement of Nursing Phenomena (3) The theoretical basis of measurement is presented in a foundation for the development and evaluation of measurement instruments and procedure for use in nursing research. Content is presented regarding measurement theories, techniques of construction, statistical analysis of reliability and validity and strengths and limitations of selected measures of nursing research.

475(6875) Special Study in Graduate Nursing (1-3) Prerequisites: Admission to the MSN program and/or consent of the instructor. In-depth study of selected topics in nursing under the guidance of a specific instructor. No more than three hours may be applied to the master's program of study.

477(6877) Thesis/Directed Research Seminar (1) Prerequisites: Nursing 412(6112) and permission of thesis/directed research chair. Presentation and discussion of selected research problems in nursing.

478(6878) Directed Research (1-6) Prerequisites: Nursing 412(6112) and permission of faculty research adviser. Individual participation in the investigation of a research problem of relevance to nursing under the direction of a faculty research adviser.

479(6879) Research Thesis (1-6) Prerequisites: Nursing 412(6112) and permission of faculty. Individual investigation of a research problem of relevance to nursing. Student works under the direction of a faculty committee to prepare and orally defend a thesis.

480(6980) Guided Nursing Research Seminar (3-6) Prerequisites: Advanced graduate status and/or consent of instructor. Provides opportunity to work in collaboration with senior faculty and peers on a focused research topic relevant to nursing. May be repeated twice on unduplicated topics.

481(7481) Nursing Theory Analysis and Development (3) Prerequisites: Admission to Ph.D. in Nursing Program and N411(6111) or equivalent. This course examines foundations of nursing using both traditional and hermeneutic methods of theory analysis and evaluation. Relevant historical and contemporary writings are analyzed.

485(7485) Nursing Research I: Quantitative Methods in Nursing Research (3) Prerequisites: Admission to the Ph.D. in Nursing program. Focuses on quantitative research methods appropriate for nursing. Students examine research questions related to nursing phenomena and methods to address these questions. This course is designed to provide in-depth analysis of research design including such areas as measures, designs, and interpretation. There is an emphasis on outcomes research related to relevant clinical nursing problems.

487(7487) Integrative Review of Nursing Literature (3) Prerequisites: Admission to Ph.D. in Nursing program and consent of instructor. Focuses on critical analysis of theoretical and conceptual models that are commonly used as a basis for nursing research projects. Students examine the frameworks that are commonly used to guide research on nursing problems. Students prepare an integrative research review, including areas such as conceptual models, measurement, statistical analysis and interpretation of findings.

488(7488) Qualitative Methods in Nursing Research (3) Prerequisites: N485(7485) or consent of instructor. Explores qualitative research methods used to build nursing's body of knowledge. Emphasis is placed on design, data generation and analysis, and dissemination of findings. Issues regarding qualitative research are identified and analyzed in respect to traditional and emerging designs.

490(7490) Nursing Research II: Advanced Methods in Nursing Research (3) Prerequisites: N485(7485). Focuses on advanced methods in nursing research that are applied in the student's preparation of a National Research Award Grant Application. Peer and faculty panels assist students in the critique and revision of their grant applications. Designed to provide students with hands-on experience in the preparation of grant applications that focus on outcomes research related to relevant clinical nursing problems.

491(7491) Nursing Theory Analysis and Development (3) Prerequisites: N487(7487). Examines conceptual and theoretical development in nursing through in-depth scholarly inquiry. A concept map showing relationships between and among terms in accomplished.

492(7492) Nursing Research II: Quantitative Analysis of Nursing Data (3) Prerequisites: N490(7490). Consolidates prior knowledge of quantitative analysis methods as applied to nursing phenomena, focusing on design and analysis issues that affect validity. Techniques commonly used in the analysis of health data are considered.
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493(7493) Psychometrics (3)
Prerequisites: N490(7490) and doctoral level statistics course and/or consent of instructor. Focuses on application of psychometric theories and practices related to instrumentation in nursing research. Basic methodologies and techniques for constructing, testing, and evaluating instruments will be discussed and applied. Content will focus on theoretical foundations of measurement, item construction, instrument design, item analysis, validity and reliability assessment. Criteria for evaluating existing instruments will also be discussed.

494(7494) Structural Equation Modeling (3)
Prerequisites: Working knowledge of SPSS and consent of instructor. An advanced seminar in statistical techniques commonly used in nursing data analysis. Students develop a working knowledge of several covariance-modeling techniques including path analysis, confirmatory factor analysis and covariance structural modeling.

498(7498) Doctoral Seminar (1-12)
Prerequisites: Admission to Ph.D. in Nursing Program and consent of instructor. Presentation and discussion of pertinent methodological and clinical issues related to doctoral candidate's research. Continuous enrollment is required.

499(7499) Dissertation Research (1-12)
Prerequisites: All required course work; successful completion of written comprehensive examination. Investigation of an advanced nature culmination in successful defense of dissertation. Continuous registration is required.

HS 302a(4000) Introduction to Cytotechnology (3)
Prerequisite: Admission to the Cytotechnology program at Jewish Hospital College of Nursing and Allied Health. An introduction to the profession of cytotechnology including basic cell biology, ethics, the microscope, and the history of the profession. Basic concepts of pathology, anatomy, normal histology, and benign cellular processes are taught.

HS 302b(4100) Female Genital Tract I (4)
begin to differentiate diagnosis presented diseases on kodachromes and glass slides. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302c(4200) Female Genital Tract II (3)
Prerequisite: Biology 302b or consent of instructor. Emphasis on the study of lesions of the uterine corpus, metastatic lesions, and lesions of the vulva and vagina. The student is expected to differentiate between malignant and premalignant diseases of the uterine corpus and to begin differential diagnosis of endometrial adenocarcinoma and endocervical adenocarcinoma from glass slides and kodachromes. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302d(4300) The Processing Laboratory (2)
Prerequisite: Biology 302c or consent of instructor. Includes routine procedures for processing, receipt, staining, coverslipping, and filing of specimens. Cytology laboratory experience includes performing laboratory techniques under the supervision of a cytotechnologist. Offers exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302e(4400) Respiratory and Order (3)
Prerequisite: Biology 302d or consent of instructor. Designed to acquaint the student with the anatomy and histology of the upper and lower respiratory areas. Epithelial appearances and changes associated with normal, benign, and malignant processes are emphasized. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302f(4600) Body Fluid Cytology (3)
Prerequisite: Biology 302e or consent of instructor. Examines the cytopathology of effusions, cerebral spinal fluid and other body fluids, and the cytologic changes associated with benign and malignant processes. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302g(4700) Gastrointestinal Genitourinary Cytology (3)
Prerequisite: Biology 302f or consent of instructor. The study of the cytology of the gastrointestinal and genitourinary systems. The anatomy of each body site is discussed along with the Normal, benign and malignant cellular changes of each system. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302h(4800) Fine Needle Aspiration Cytology (4)
Prerequisite: Biology 302g or consent of instructor. Examines the anatomy and histology of the breast, thyroid, and lymph nodes with emphasis on the cytologic patterns associated with normal benign, and malignant processes. In addition, the student will have the opportunity to observe and assist the cytopathologist and/or cytotechnologist with fine needle aspiration procedures from various body sites to observe techniques for processing and rapid cytologic assessment. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.
HS 302I(4900) Advanced Practices in Cytology (12)
Prerequisite: Biology 302I or consent of instructor. This course requires the student to examine a variety of specimens for cytologic evaluations from all body sites. Students must have achieved minimum screening accuracy in prerequisite courses to begin practicum. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 302J(3520) Leadership and Management Cytology (4)
Prerequisite: Economics 51(1001) or Business 210(3600) or equivalents. Examines theories of leadership, management and organizations as applied to cytotechnology. Healthcare economics, political issues and healthcare systems are investigated within a systems theory framework. Utilizes computer spreadsheets and delivery patterns. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303A(4810) Issues and Trends in Role Development (3)
Prerequisite: Admission to the clinical laboratory science program at Jewish Hospital College of Nursing and Allied Health. Presents overview of educational principles and teaching. Selected laboratory management issues considered.

HS 303B(4010) Clinical Bacteriology (3)
Prerequisite: Biology 216(2482) and 218(2483) or consent of instructor. Studies morphology, cultural and growth characteristics of bacteria and viruses which cause infectious disease. Specimen and media selection, collection, transport, storage and processing are also studied. Students learn to differentiate normal from pathogenic microorganisms. Disease correlation with laboratory data is stressed. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303C(4110) Bacteriology Practicum (4)
Prerequisite: Biology 303B or consent of instructor. Morphology, cultural and growth characteristics of bacteria and viruses which cause infectious diseases. Specimen and media selection, collection, transport, storage, and processing covered. Differentiation between normal and pathogenic microorganisms and disease correlation with laboratory data stressed. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303D(4250) Parasitology and Mycology (2)
Prerequisite: Biology 216(2482) or 218(2483) or consent of instructor. Lectures and laboratory exercises focus on identification and differentiation of selected parasites, medically important fungi, and common contaminants. Common methods and techniques and instruments explored. Classification, diagnostic states of fungi and parasites, and life cycles and vectors for parasites studied. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303E(4410) Clinical Immunology (2)
Prerequisite: Biology 317(4842) or consent of instructor. Introduce the principles of both normal and abnormal responses of the immune system through the molecules, cells, organs, and systems responsible for the recognition and disposal of foreign materials. Immunological manifestations of diseases are discussed. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303F(4450) Immunology Practicum (1)
Prerequisite: Biology 303E or consent of instructor. The focus of the clinical practice is on serologic and immunologic testing. Data interpretation, troubleshooting in test systems and disease correlation with laboratory data are stressed. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303G(4510) Immunohematology (3)
Prerequisite: Biology 317(4842) or consent of instructor. Studies theory and principles in immunology and genetics that determine blood types. Transfusion services stressed. Aspects of red cells, platelets and components discussed regarding selection, collection, transport, storage, processing, and their use for transfusion. Donor requirements and laboratory operations included. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303H(4550) Immunohematology Practicum (3)
Prerequisite: Consent of instructor. Clinical practice focuses on basic and special testing to assure safe blood supply and safe transfusion therapy. Adverse reactions investigated to identify cause of reaction. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.
HS 303i(4601) Hematology (4)
Prerequisite: Consent of instructor. Study of fundamentals of hematology and hemotasis. Hematopoiesis, pathogenesis of anemia and disease process resulting in abnormal erythrocyte morphology will be presented. Focus on leukocyte disorders, leukemias, lymphomas, and lipid storage disease. Platelet structure and function, vascular and platelet disorders, defects of clotting factors, and interaction of fibrinolytic coagulation and kinin systems discussed. Provides an overview of the use of flowcytometric and molecular diagnostics in hematology. Laboratory component will be part of comprehensive clinical experience in hematology. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303j(4661) Hematology Practicum (3)
Prerequisite: Biology 303i or consent of instructor. Clinical practice focuses on basic and special testing in hematology as well as phlebotomy. Identification of normal and abnormal cell morphology is studied, and diseases are correlated with abnormal cells. Coagulation testing to identify coagulation defects and hemostatic diseases performed. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303k(4701) Clinical Chemistry (3)
Prerequisite: Consent of instructor. Focus on biochemical theory and physiology of carbohydrates, lipids, and lipoproteins, heme derivatives, liver and renal function, non-protein nitrogenous compounds, proteins, enzymes, electrolytes, and acid-base balance, hormones, and endocrine system. Normal and abnormal manifestations of diseases and correlation with other laboratory tests presented. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303l(4750) Chemistry Practicum (4)
Prerequisite: Consent of instructor. Clinical practice focuses on basic and special test methods and focuses on basic and special test methods and instrumentation used in quantifying metabolites and analytes discussed in Biology 303k. Quality control, correlation of test data and disease states presented. Biological and chemical safety practiced. Offered exclusively for students meeting clinical lab science or cytotechnology requirements in the clinical program at Jewish Hospital College of Nursing and Allied Health.

HS 303N(3520) Leadership and Management (3)
Prerequisite: Economics 51 (1001) or Business 210 (3600) or equivalent. Examines theories of leadership, management, and organization as applied to Healthcare Systems, Healthcare economics, political issues, and healthcare systems investigated within a systems theory framework. Computer programs used for development of financial spreadsheets and delivery patterns. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

HS 393(3807) Research Methods in the Health Sciences (3)
Prerequisite: Psychology 201 (2201) or equivalent. Develops an understanding of the research process as applied to allied health. The value and purpose of research within an ethical/legal context is explored. Qualitative and quantitative research methods and approaches to solve problems are examined. Students are actively involved in evaluating, critically analyzing and interpreting data to determine implications for practice. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.
College of Optometry
College of Optometry

This section contains an abbreviated version of the College of Optometry Bulletin. Some information is omitted.

For the most complete and accurate information regarding the Optometry program at UM-St. Louis, please go to: http://www.umsl.edu/divisions/optometry/optometry.html and link to the College of Optometry Bulletin. It is a downloadable document in PDF format.

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John A. McGreal, Jr., Clinical Assistant Professor
O.D., Pennsylvania College of Optometry

Bruce Morgan, Clinical Assistant Professor
O.D., Northeastern State University

Lori L. Paul, Adjunct Assistant Professor
Ph.D., Washington University

Stuart Ross, Adjunct Assistant Professor
Ph.D., University of Wisconsin-Madison, NIH Postdoctoral Fellow, Dartmouth Medical School

*members of Graduate Faculty

Off-Campus Adjunct Faculty

Joseph H. Maino, Clinical Associate Professor
O.D., Illinois College of Optometry; Residency, Rehabilitative Optometry, VA MEDICAL Center, Kansas City

Francis E. O'Donnell, Jr., Clinical Associate Professor of Ophthalmology
M.D., Johns Hopkins University, Residency, Ophthalmology, Wilmer Institute, Johns Hopkins University

Paul Ajamian, Clinical Assistant Professor
O.D., New England College of Optometry

Ronald Bateman, Clinical Assistant Professor
O.D., Indiana University-Bloomington
Claude Valenti, Clinical Assistant Professor  
O.D., University of Pennsylvania

Matt Wickham  
O.D., University of Missouri-St. Louis

Scott Yager  
O.D., The Ohio State University

Dwayne Young  
Clinical Assistant Professor  
O.D., Indiana University

General Information  
The UM-St. Louis College of Optometry enrolled its first class in 1980, graduating 32 students in May 1984. The school is located on the South Campus complex of the University of Missouri-St. Louis at 7800 Natural Bridge Road. A modern five-story building houses the school's classrooms, laboratories, research facilities, administrative offices, library, and the Center for Eye Care campus facility (the University Eye Center).

Center for Eye Care  
The Center for Eye Care provides a patient care learning environment for third-year and fourth-year optometric students and residents. The Center for Eye Care includes four locations: the University Eye Center on the UM-St. Louis south campus, the Optometric Center in the Central West End of St. Louis, the East St. Louis Eye Center, and the Harvester Eye Center in St. Charles, MO. The main purpose of these and other smaller centers in the St. Louis area is to provide an instructional setting where student interns are exposed to a wide variety of patients under the direct supervision of full-time or part-time clinical faculty. Equally important is that these Centers provide exemplary, comprehensive and state-of-the-art optometric care to their patients.

The Centers provide a full range of optometric services to patients including primary eye care, contact lens, pediatric/binocular vision, low vision, and eye health management. These services are described below in greater detail.

Situated in Missouri's largest metropolitan area, the school enjoys the city's strong community and professional support. The urban setting offers many opportunities for outreach programs, expanding the scope of optometric education and making available highly diverse programs of clinical training. Another asset of the school is the location of the national headquarters of the American Optometric Association and the College of Optometrists in Vision Development, approximately twelve miles from the campus.

The curriculum leading to the doctor of optometry degree is a four-year, full-time program of study. The first year of the professional curriculum stresses optics and basic health sciences and introduces students to optics of the visual
system. The second year covers vision science and training in eye examination techniques. The third year emphasizes patient care and introduces the student to various specialty areas within optometry, such as contact lenses, pediatric and geriatric vision care, binocular vision and vision training, and low vision rehabilitation. The second and third years also include coursework and clinical training in ocular disease and pharmacology. The fourth year provides additional patient care experiences and includes rotations through a variety of outreach programs, giving the student added experience in the treatment of eye diseases, as well as valuable experience in other optometric clinical specialties.

Fourth-Year Externship Program
In addition to the patient care experiences available through the University Eye Center, Optometric Center, the East St. Louis Center, the Harvester Eye Center, and the College of Optometry has an diverse Externship Program. Students must receive approval from the faculty and the Director of Externships for assignments to each Externship site. This program allows fourth-year students to spend a portion of their final year of training in a variety of patient care environments (i.e., military bases, Veterans Administration Hospitals, Indian Health Services Hospitals various specialty practices and private practices).

These eight (8) week Externships are selected and scheduled according to the individual student's interest, needs and future practice intentions. In this program, students leave the academic environment and begin working with selected practicing optometrists while continuing to be monitored by the Centers through weekly reports of all patient experiences and activities. These are some of the most frequently used sites: Becherer and Becherer, Belleville, IL; Carl Albert Indian Health Service, Ada, OK; Colorado Optometric Center, Denver, CO; Koetting and Associates, St. Louis, MO; Missouri Eye Institute, Springfield, MO; Morey/Mulqueeny Eye Center, St. Louis, MO; O'Donnell Eye Institute, St. Louis, MO; Omni Eye Services of Georgia, Atlanta, GA; Optometric Clinic, Kaneohe Bay, HI; Resler-Korber Optometric, Inc., St. Louis, MO; St. Louis Comprehensive Neighborhood Health Center, St. Louis, MO; Southwest Medical Center, St. Louis, MO; Veterans Administration Hospital, Columbia, MO; Veterans Administration Hospital-Cochran/Jefferson Barracks, St. Louis, MO; Veterans Administration Hospital, Kansas City, MO; Veterans Administration Hospital, Marion, IL; Washington University Eye Center, St. Louis, MO.

Students may arrange their own off-campus clinical experiences with the approval of the director of externships.

In 1986 the Missouri Optometry Practice Act was revised by the state legislature to include treatment of certain eye diseases utilizing pharmaceutical agents. Thus optometry students at UM-St. Louis are uniquely situated to receive excellent training in this aspect of optometric practice.

Roughly half of the states in the United States now have laws authorizing optometrists to prescribe drugs in the treatment of certain eye diseases. The training and clinical experience optometry students receive at UM-St. Louis in the diagnosis, treatment, and management of ocular disease is excellent and qualifies UM-St. Louis graduates to practice optometry in any state in the nation.

A student who satisfactorily completes all four years of the professional curriculum will be eligible to receive the doctor of optometry degree.

The College of Optometry is a member of the Association of Schools and Colleges of Optometry and is accredited by the Council on Optometric Education of the American Optometric Association, the official optometric agency recognized by the National Commission on Accrediting and by the International Association of Boards of Examiners in Optometry.

All optometry students enrolled in the University of Missouri-St. Louis College of Optometry are eligible for membership in the student optometric association, which is affiliated with the American Optometric Association. Through this organization, students become involved in local and national optometric activities. The organization provides an environment for the cultivation of professional leadership skills, and members have organized and participated in a variety of community service activities, including community health screenings and vision care to residents of nursing homes, convalescent hospitals, and mental institutions. Furthermore, optometry students have formed local chapters of SVOSH (Student Volunteer Optometric Services to Humanity), an international organization of optometrists providing free vision care to people in impoverished nations, and the NOSA (National Optometric Student Association), which strives to recruit minority students into optometry and encourages retention of minority students.

In addition to the many activities through the College of Optometry, optometry students are able to take advantage of all the activities provided by the university to the entire university community. These include intramural sports, movies and cultural activities, a modern, fully-equipped gymnasium, and access to many social and cultural opportunities in St. Louis at reduced cost.

"3+4" Scholars Program
The College of Optometry currently has a program with the Pierre Laclede Honors College which allows students to complete both their undergraduate studies and a Doctor of Optometry degree in seven years. Students can qualify for this program while they are seniors in high school. Exceptional academic performance is required. They are granted provisional acceptance into the College of Optometry after admission to the Honors College. This program offers professional and academic advisement by the College of Optometry faculty throughout the Honors
College undergraduate experience, as well as offering early exposure to clinically related activities and participation in Optometry student association activities. Undergraduate students in this program may apply for formal admission to the College of Optometry after completion of Optometry prerequisites and three years at the Honors College. The first year of Optometry School will complete the undergraduate requirements. Similar 3 + 4 programs also exist in cooperation with the departments of Biology, Physics and Chemistry.

College of Optometry

Admission Requirements
Semester:
English - 2
Biology (including laboratory)* - 3
Physics (including laboratory) - 2
Chemistry**
  General (including laboratory) - 2
  Organic (including laboratory) - 1
Mathematics** *
  Calculus - 1
  Statistics - 1
Psychology - 2
Social and Behavioral Sciences - 2 or Quarter:
English - 3
Biology (including laboratory)* - 4
Physics (including laboratory) - 3
Chemistry**
  General (including laboratory) - 3
  Organic (including laboratory) - 2
Mathematics **
  Calculus - 1
  Statistics - 1
Psychology - 2
Liberal Arts - 2

*One semester (or one quarter) of Microbiology is a requirement. One semester of Anatomy or Physiology is recommended.

**One semester of Biochemistry is recommended.

***Trigonometry as a prerequisite course for Calculus must be completed either in high school or college.

All courses used to satisfy the admission requirements must have been taken at a fully accredited institution or must be acceptable by an accredited institution toward degree credit. Specific prerequisite courses must be taken for a letter grade; they cannot be taken as an audit or on a pass/fail or satisfactory/unsatisfactory basis. Applicants must have completed 90 semester or 135 quarter hours (the equivalent of three years of college education) before the start of classes. The applicant cannot apply more than 60 semester hours or 90 quarter hours which were earned at a two-year institution toward the credit-hour requirement. Applicants holding a bachelor's degree will be given preference over applicants with similar academic credentials who do not have a degree. Applicants to the school come from a variety of undergraduate backgrounds, such as biological sciences, psychology, education, and business.

Admission Test
All applicants are required to take the Optometry Admission Test (OAT). The OAT is offered each year in February and October. Results are sent to the applicant and schools of optometry approximately six to eight weeks after the date of testing. Official test scores are acceptable for up to three years from the testing date.

Applicants are encouraged to take the examination in February or October of the year preceding anticipated application to the College of Optometry. If applicants wish to enhance their scores, they are encouraged to repeat the examination. For an OAT application packet and additional information, contact:

Optometry Admission Testing Program
211 East Chicago Ave.
Suite 1846
Chicago, IL 60611
(312) 440-2693

Application Procedures
The Admissions Committee begins to process applications on August 1 for the class entering the following year. An applicant's file will be considered complete and ready for consideration by the Admission Committee when the following material has been received:

1. Application.
2. $50.00 non-refundable application fee.
3. Official high school and college transcripts, followed by updated transcripts as they become available.
4. Academic record form.
5. Official Optometry Admission Test (OAT) results.
6. A composite evaluation prepared by the preprofessional advisory committee at the educational institution the applicant is attending. Those applicants not currently attending college or who are at an institution that does not offer a committee evaluation will be required to submit four letters of recommendation.

Official transcripts must be mailed from every college attended, regardless of whether or not credit was earned.

Letters of recommendation must be mailed directly to the school by the originator. All applicants will be required to sign a form to waive their right to review the letters of recommendation. It is the applicant's responsibility to ensure all application materials are received in the office of Student Services by March 15 to be considered for
admission to the class entering in August of the same year. From Other Countries
scholarships, there is an early enrollment deadline. All applications considered for the early application deadline. All materials must be received by January 10 in order to be acknowledged. Application material received after that time will still be considered for admission but not additional awards.

All correspondence, inquiries and application material should be addressed to:

UM-St. Louis College of Optometry
Office of Student Services
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Applications may also be submitted online by accessing an application at www.umsl.edu/divisions/optometry/programs/appllpro.html

Students From Other Countries
In addition to the standard application procedures, applicants living outside the United States and its possessions must take the Test of English as a Foreign Language (TOEFL) and receive a minimum score of 500. Write to:

Test of English as a Foreign Language (TOEFL)
Educational Testing Service
Princeton, NJ 08530

To complete their credential file, applicants are required to furnish original and official transcripts from each school and college attended both in this country and abroad. The Educational Credentials Evaluators, Inc. or the World Education Services must evaluate all foreign school and college transcripts and their evaluation submitted as part of the application requirement. For information contact:

Educational Credentials Evaluators, Inc.
Post Office Box 514070
Milwaukee, WI 53203
(414) 289-3400
Fax: (414) 289-3411
E-mail: eval@ece.org

World Education Services
P.O. Box 745
Old Chelsea Station
New York, N.Y. 10113-0745
(212) 966-6311
Fax: (212) 966-6395

The University of Missouri-St. Louis maintains an Office of International Student Services to assist applicants who have been offered admission. All new international students are required to attend a formal orientation program before matriculation. For more information, contact:

University of Missouri-St. Louis
Office of International Student Services
8001 Natural Bridge Road
St. Louis, MO 63121-4499
(314) 516-5229

Selection Procedures
Applications are reviewed beginning September 1 with interviews scheduled and initiated starting October 1. The School uses a 'rolling admissions' process which allows qualified applicants to be admitted on an ongoing basis until the class is filled. Therefore, applicants are encouraged to apply as early as possible ensure full consideration for admission.

The Admissions Committee has the responsibility to review and evaluate all applicants and select the best qualified candidates. The committee considers: an applicant's overall grade point average, the grade point achieved in the sciences, any grade trends over the years in college, and the scores on the OAT. Concurrently, candidates are evaluated on less quantitative measures such as extracurricular activities and interests, related or unrelated work experience, written narrative, and letters of recommendation.

Those applicants whom the committee feels to be most competitive will be invited for an on-campus interview. The on-campus interview facilitates an assessment of the applicant's communication skills, interests, motivation, and personal characteristics. In addition, the on-campus interview allows the applicant to tour the facilities, meet with currently enrolled students, present questions regarding financial aid and housing, and learn more about the University of Missouri-St. Louis and the College of Optometry. From this group of interviewed applicants, the entering class of approximately 44 students will be selected.

The policies of the University of Missouri-St. Louis and the College of Optometry comply with the provisions under those laws which forbid discrimination on the basis of race, color, sex, national origin, religion, age, handicap, or veteran status.

Admission Process
Notices of acceptance may be received as late as June of the year in which the students enter the program. If acceptance to the class is conditional, the terms of the condition must be completed prior to matriculation. Applicants who have indicated that degree requirements will be completed prior to matriculation, and who have been selected for admission, may receive a conditional offer of acceptance contingent upon completion of the degree.
Students offered admission have two weeks from the date on the offer of admission letter to make a required $200 acceptance deposit. The $200 deposit will be credited toward tuition when the student matriculates. The deposit is considered a non-refundable administration fee should the student not matriculate. A certain number of applicants are placed on an alternate list. If an applicant who has been offered admission declines the offer, their position will be allocated to the next individual on the alternate list.

Notification of denial is sent by mail. If an applicant is interested in reapplying, they should contact the College of Optometry's Office of Student Services and request a reapplication packet.

Financial Aid
The University of Missouri-St. Louis maintains an Office of Student Financial Aid to assist students with the cost of their education.

Financial assistance is available in the form of grants, loans, scholarships, and work-study. Funds for these programs are available from federal, private, state, and institutional resources. To apply for financial aid, students must complete a Free Application for Federal Student Aid (FAFSA). Preference will be given to those students who have completed the FAFSA by April 1. Preference means that the Student Financial Aid Office will begin awarding FWS (Federal College Work-Study), Federal SEOG (Federal Supplemental Educational Opportunity Grant) and Federal Perkins Loan funds. A completed financial aid application means that the Financial Aid Office has received an official Student Aid Report from the Federal Processing Center.

The Student Financial Aid Office maintains a Web site at www.umsl.edu/services/financialaid/, where students will find useful information along with the ability to contact the office electronically via e-mail. Also included is a scholarship directory that is updated biweekly.

To be considered for all university scholarships offered through the Financial Aid Office, a student must be accepted for admission. A scholarship application must be completed to apply for scholarships awarded through Student Financial Aid. All incoming students should complete the Incoming Freshman Scholarship Application. Continuing students should complete the Continuing Student Scholarship Application.

Many state optometric associations and their auxiliaries offer scholarships and grants. Application is generally made directly to the state association or auxiliary and selection is generally made on the basis of state residence and other criteria. Information may be obtained by writing to the various state optometric associations and/or auxiliaries.

The College of Optometry will provide additional information about scholarships and the school's Handbook of Loans, Scholarships, Grants, and Awards to applicants during the interview process.

Fees
Detailed information regarding current fees and residency regulations is furnished in the Schedule of Courses, a newspaper schedule distributed before each semester registration, available at the Registrar's Office in Woods Hall. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this Bulletin is still in use.

The university reserves the right to change fees and other charges at any time without advance notice.

Education Fees
All students enrolled in the University must pay educational fees based on either the schedule for Missouri residents or the schedule for non-residents. All optometry students will be required to pay the non-resident educational fee if they do not meet the University of Missouri residency requirements at the time of enrollment.

<table>
<thead>
<tr>
<th></th>
<th>Resident</th>
<th>Non-resident</th>
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<tbody>
<tr>
<td>Fall 2002</td>
<td>7,934.40</td>
<td>15,961.60</td>
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<td>Winter 2003</td>
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<tr>
<td>Summer 2003*</td>
<td>3,967.20</td>
<td>7,980.80</td>
</tr>
</tbody>
</table>

The Educational Fees plateau is 16.0 credit hours. 
Any student enrolled for less than 16.0 credit hours will be charged per credit hour at $495.90. Nonresidents pay a nonresident fee of $501.70 per credit hour.

* A Summer Session is required between the third and fourth professional year.

Other Required Fees
All students are required to pay the following fees each semester: Instructional Computer Fee $9.60 per credit hour (no maximum); Student Facility, Activity, and Health Fee $27.22 per credit hour (maximum six credit hours for Summer/12 credit hours for the Fall and Winter).

Parking Fee
All vehicles parked on campus require a parking permit. It is the responsibility of the student to be aware of the parking policies and procedures while using the lots at the University of Missouri St. Louis. The College of Optometry cannot be responsible for violations from students who do not purchase parking permits or adhere to the campus policies and procedures.

Parking fee $18.00 per credit hour for Summer Session; $20.00 per credit hour during the Fall and Winter Semesters. All fourth year students who are away on externship rotation must pay a minimum of $18.00 per semester for parking.
Student Health Insurance (optional)
An Accident and Sickness Insurance plan is available to students and their dependents. Information concerning premiums and coverage is available upon request from University Health Services. Their phone number is: (314) 516-5671.

*Nonresident Students
Students who do not meet the residency requirements must pay the nonresident educational fee according to the schedule above. A definition of "residency" is outlined in Tuition and Residency Rules, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper educational fees.

Currently, five nonresident positions are allocated by state reciprocal agreements for residents of Kansas. Individuals who are admitted under these agreements will pay reduced educational fees. For additional information, contact:
Optometry Program
Kansas Board of Regents
700 S.W. Harrison, Suite 1410
Topeka, KS 66603
(785) 296-3517.

Optometry students will be required to pay nonresident educational fees if they do not meet the university's residency requirements at the time of their enrollment. The definition of "residency" is outlined in the pamphlet Tuition and Residency Rules available from the Cashier's Office, (314) 516-5151.

Four-Year Professional Degree (O.D.) Curriculum

### First Year

#### Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>504(8040) Neuroanatomy</td>
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<td>3</td>
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<tr>
<td>505(8020) Geometric Optic</td>
<td>4</td>
<td>3</td>
<td>2</td>
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<tr>
<td>506(8030) Practice Management I</td>
<td>2</td>
<td>2</td>
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<tr>
<td>509(8010) Gross Anatomy, Physiology and Disease Processes</td>
<td>5</td>
<td>4</td>
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</tr>
<tr>
<td>512(8060) Biochemistry</td>
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#### Winter Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>513(8140) Physical Optics and Photometry</td>
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<tr>
<td>514(8180) Clinical Optometry I</td>
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<td>515(8120) Ocular Optics</td>
<td>3</td>
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<tr>
<td>516(8130) Physiological Optics Laboratory</td>
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<tr>
<td>518(8160) Anatomy and Physiology of the Eye</td>
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<tr>
<td>519(8150) Physical Optics and Photometry Lab</td>
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<tr>
<td>510(8110) Gross Anatomy, Physiology and Disease Processes II</td>
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### Second Year

#### Fall Semester

<table>
<thead>
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<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>522(8220) Ophthalmic Optics</td>
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<tr>
<td>521(8280) Clinical Optometry II</td>
<td>5</td>
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<tr>
<td>524(8250) Monocular Sensory Processes</td>
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<tr>
<td>8290 Physiological Optics Lab II</td>
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<tr>
<td>555(8260) General Pharmacology</td>
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<td>541(8230) Practice Management II</td>
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<tr>
<td>517(8240) Ocular Motility</td>
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#### Winter Semester

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<tr>
<th>Course Code</th>
<th>Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>530(8320) Ophthalmic Dispensing</td>
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<td>531(8380) Clinical Optometry III</td>
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<tr>
<td>532(8340) Binocular Vision and Space Perception</td>
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<td>533(8370) Ocular Disease I</td>
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</tr>
<tr>
<td>535(8350) Epidemiology</td>
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<td>565(8360) Ocular Pharmacology</td>
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</tr>
<tr>
<td>568(8390) Clinical Medicine</td>
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</table>

### Third Year

#### Fall Semester

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<th>Hours</th>
<th>Lecture</th>
<th>Lab</th>
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</thead>
<tbody>
<tr>
<td>550(8500) General Clinic I</td>
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<tr>
<td>553(8520) Contact Lenses I</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>554(8540) General Clinic II</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>556(8570) Ocular Disease II</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>565(8550) Low Vision</td>
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#### Winter Semester

<table>
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<tr>
<th>Course Code</th>
<th>Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>557(8610) Environmental Vision</td>
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<tr>
<td>559(8680) Ophthalmic Lasers</td>
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<tr>
<td>560(8660) General Clinic II</td>
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<tr>
<td>561(8690) Pediatric/Binocular Specialty Clinic I</td>
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<tr>
<td>563(8660) Contact Lens Specialty Clinic</td>
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<td>-</td>
</tr>
<tr>
<td>564(8620) Contact Lenses II</td>
<td>2</td>
<td>-</td>
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</tr>
<tr>
<td>558(8650) Geriatric Optometry</td>
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<tr>
<td>556(8670) Ocular Assessment</td>
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<td>567(8640) Pediatric Optometry</td>
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<tr>
<td>565(8630) Practice Management III</td>
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</table>
### Fourth Year

**Category 1 UM-St. Louis**  
*Note: Must enroll in 573(8700), 574(8710), and 575(8720) concurrently*

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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</thead>
<tbody>
<tr>
<td>573(8700) UM-St. Louis Pediatric/Binocular Vision Patient Care</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>574(8710) UM-St. Louis Contact Lens Patient Care</td>
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</tr>
<tr>
<td>575(8720) UM-St. Louis Eye Health Management Patient Care</td>
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</table>

**Category 2 Institutional**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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</thead>
<tbody>
<tr>
<td>586(8780) External Rotation in Institutional Patient Care</td>
<td>7</td>
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</table>

**Category 3 Ocular Disease**

<table>
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<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>585(8790) External Rotation in Ocular Disease Patient Care</td>
<td>7</td>
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</table>

**Category 4 Intern**  
*Note: Must enroll in 576(8730) and 577(8740) concurrently*

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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</thead>
<tbody>
<tr>
<td>571(8770) Community Service in Rotation in Patient Care</td>
<td>7</td>
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<tr>
<td>572(8750) East St. Louis Center Patient Care</td>
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<tr>
<td>576(8730) Optometric Center Patient Care</td>
<td>6</td>
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<tr>
<td>577(8740) Optometric Center Eye Health Management Patient Care</td>
<td>2</td>
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<tr>
<td>8760 Harvester Eye Center Patient Care</td>
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**Category 5 Specialty**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>578(8810) External Rotation in Contact Lens Patient Care</td>
<td>7</td>
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<tr>
<td>579(8800) External Rotation in Pediatric/Binocular Vision Patient Care</td>
<td>7</td>
<td></td>
<td></td>
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<tr>
<td>592(8820) External Rotation in Low Vision Patient Care</td>
<td>7</td>
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**Category 6 Elective**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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</thead>
<tbody>
<tr>
<td>570(8830) External Rotation in General Patient Care</td>
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<tr>
<td>580(8850) Supplementary Rotation in General Patient Care</td>
<td>7</td>
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<td></td>
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<tr>
<td>581(8840) External Supplementary Rotation in General Patient Care</td>
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</table>

**Required Courses**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>583(8870) Practice Management IV Vision Science</td>
<td>2</td>
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<td></td>
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<tr>
<td>593(8880) Clinical Seminar</td>
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</table>

**Elective Courses in the College of Optometry**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>589(8400) Directed Readings</td>
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<tr>
<td>588(8410) Directed Research</td>
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<tr>
<td>569(8420) Ocular Photography</td>
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<tr>
<td>598(8440) Clinical Applications of Current Vision Science</td>
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</table>

**Topics in Visual Science**

**Graduate Physiologic Optics Courses Approved for Elective Credit**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>400(6400)</td>
<td>Sensory Processes and Perception</td>
</tr>
<tr>
<td>401(6401)</td>
<td>Visual Optics</td>
</tr>
<tr>
<td>402(6402)</td>
<td>Ocular Anatomy and Physiology</td>
</tr>
<tr>
<td>403(6403)</td>
<td>Psychophysical Methods and Experimental Design</td>
</tr>
<tr>
<td>404(6404)</td>
<td>Sensory Neuroscience</td>
</tr>
<tr>
<td>405(6405)</td>
<td>Neuroanatomy</td>
</tr>
<tr>
<td>406(6406)</td>
<td>Geometric Optics</td>
</tr>
<tr>
<td>451(6451)</td>
<td>Corneal Physiology</td>
</tr>
<tr>
<td>452(6452)</td>
<td>Growth and Development of the Visual System</td>
</tr>
<tr>
<td>453(6453)</td>
<td>Advanced Physiology of Other Sensory Systems</td>
</tr>
<tr>
<td>454(6454)</td>
<td>Binocular Vision</td>
</tr>
<tr>
<td>455(6455)</td>
<td>Visual Information Processing</td>
</tr>
<tr>
<td>456(6456)</td>
<td>Oculomotor Systems</td>
</tr>
<tr>
<td>457(6457)</td>
<td>Comparative and Evolutionary Aspects of Vision</td>
</tr>
<tr>
<td>458(6458)</td>
<td>Noninvasive Assessment of the Visual System</td>
</tr>
<tr>
<td>459(6459)</td>
<td>Introduction to Computer Programming for Vision Research</td>
</tr>
<tr>
<td>470(6470)</td>
<td>Individual Studies in Physiological Optics</td>
</tr>
<tr>
<td>490(6490)</td>
<td>Graduate Research in Physiological Optics</td>
</tr>
<tr>
<td>497(6497)</td>
<td>Interdisciplinary Geriatric Care</td>
</tr>
<tr>
<td>499(6499)</td>
<td>Current Topics in Optometry and Vision Science</td>
</tr>
</tbody>
</table>

*Due to advances in the optometric profession, sequencing of courses may change. The courses listed above are subject to change through normal academic procedures.*

**Grades**

All courses taken for credit in the professional program must be passed with a "C-" or better in order for a student to qualify for graduation. Furthermore, in order to qualify for graduation, a student must be in good academic standing and the cumulative professional GPA must be 2.5 or higher. Beginning in May 2003, students must submit evidence to the Office of Student Services that they have taken the 3 part NBEO examinations prior to graduation. Such evidence may include a copy of the score report received from NBEO.

To assure graduating at the end of a specific semester, all work for that semester and any delayed grades from previous semesters must be completed with the grades sent to the Office of Student Services no later than the official date for submission of final semester grades.

**Time limitations**

All of the required courses during the first 6 semesters of first course enrollment and all required courses for the O.D. degree must be completed within 6 years after the first course enrollment.

**Graduate Studies**

**Physiological Optics**

Physiological optics is a multidisciplinary area concerned with the study of normal and anomalous vision. The goal
of this program is to train the next generation of researchers in clinical and basic vision science, to conduct research, and to educate faculty for schools of optometry. Students will be required to integrate basic skills in vision science with focal studies in an area of research emphasis.

This program will emphasize research aimed at new treatments and cures for vision disorders, as well as research in basic mechanisms of visual functions. The College of Optometry offers both an M.S. degree and a Ph.D. degree. Students may apply to the Graduate School for admission to either the M.S. or the Ph.D. program.

 Admission Requirements
Students should have the appropriate background for graduate training in physiological optics and appropriate. undergraduate courses for their anticipated research emphasis. Applicants must have a bachelor's degree from an accredited college or university within the United States or from an equivalent institution outside the United States. To be admitted as regular graduate students, applicants must have a grade point average of at least 3.0 in their overall undergraduate work, in their undergraduate major, and in any postbaccalaureate academic work. Students must arrange for transcripts to be submitted from all postsecondary academic work and to have at least three letters of recommendation sent by faculty members at previously attended colleges and universities. Students must also submit GRE scores (verbal, quantitative, and analytic). Applicants to the M.S. program must have combined scores on the verbal and quantitative sections of at least 1000; applicants to the Ph.D. program must have combined scores of at least 1100. In addition, students from countries where English is not a primary language must submit TOEFL scores of 550 or better. All materials and scores must be submitted by March 1 if an applicant wishes to be considered for financial assistance for the fall semester.

 Master of Science in Physiological Optics

 Degree Requirements
The M.S. degree requires 30 semester hours of course work, including the core courses. At least 25 of these hours will normally be taken from courses offered by the College of Optometry, with no more than 10 of these in Physiological Optics 490, Graduate Research in Physiological Optics. Each M.S. student will be required to teach at least two semesters in areas determined by the Graduate Committee in Physiological Optics.

 The core courses for this program are:
Physiological Optics 400(6400), Sensory Processes and Perception (3 credits)
Physiological Optics 401(6401), Visual Optics (3 credits)
Physiological Optics 402(6402), Ocular Anatomy and Physiology (3 credits)
Physiological Optics 403(6403), Psychophysical Methods and Experimental Design (3 credits)

 College of Optometry

Physiological Optics 404(6404), Sensory Neuroscience (3 credits)

Special Topics, Individual Studies, and Advanced Topics courses in Physiological Optics are also offered.

 Each M.S. student must also complete a thesis based on research conducted during the program. The thesis must be approved by a committee of at least three members of the graduate faculty, at least two of whom must be from the graduate faculty in physiological optics.

 Ph.D. in Physiological Optics

 Degree Requirements
The doctoral degree requires 60 semester hours of course work, including the core courses. Each Ph.D. student will also be required to demonstrate proficiency in a foreign language, computer language, advanced statistical methods, or another acceptable tool skill. The tool skill and level of proficiency must be selected in advance in consultation with the Graduate Committee in Physiological Optics. Students will be required to teach at least two semesters in areas determined by the graduate committee.

Written qualifying examinations will be offered each semester. Students must declare their intent to take the examinations at least one month prior to the beginning of that semester or summer session. Full-time students must attempt qualifying examinations before beginning their third year of study. Students must declare their intent to take the examinations at least one month prior to the beginning of that semester or summer session.

The preparation of the dissertation will be supervised by a dissertation committee which will be appointed by the Graduate Dean upon the recommendation of the Director of Graduate Programs in the College of Optometry. Input from the student's advisor will be solicited by the Director prior to finalization of the recommendation by vote of the Graduate Faculty. An oral examination of the written dissertation proposal will be conducted by the Committee. A public oral defense of the completed written dissertation is also required.

The core courses for this program are:
Physiological Optics 400(6400), Sensory Processes and Perception
Physiological Optics 401(6401), Visual Optics
Physiological Optics 402(6402), Ocular Anatomy and Physiology
Physiological Optics 403(6403), Psychophysical Methods and Experimental Design
Physiological Optics 404(6404), Sensory Neuroscience

Special Topics, Individual Studies, and Advanced Topics courses in Physiological Optics are also offered.
Continuing Education

The College of Optometry offers continuing education programs for optometrists throughout the Midwest region as well as nationwide. Courses on management of ocular diseases, ocular anomalies, and visual skills are held on a frequent basis. In addition to College of Optometry faculty, optometric specialists, medical educators, and researchers have input into course development as well as participation in course presentations. All CE courses offered by the school are accepted by those states requiring continuing education credit for relicensure.

Continuing Education course information may be obtained by contacting:

University of Missouri-St. Louis College of Optometry
Office of Continuing Education
8001 Natural Bridge Road
St. Louis, MO 63121-4499
(314) 516-5615

Career Outlook

Doctor of Optometry Degree
A doctor of optometry is an independent health care professional who is specifically educated, clinically trained, and licensed to examine, diagnose, and treat conditions or impairments of the human vision system. They examine the eyes and related structures to determine the presence of vision problems, eye disease, and other ocular abnormalities.

Doctors of optometry are the major providers of vision care. They provide treatment by prescribing ophthalmic lenses or other optical aids, provide vision therapy to preserve or restore maximum efficiency in vision, and in most states (including Missouri) are authorized to prescribe drugs in the treatment of certain eye diseases.

Doctors of optometry can also detect certain general diseases of the human body such as diabetes, hypertension, and arteriosclerosis that have the potential capacity to affect vision. When an eye examination reveals diseases in other parts of the body, the optometrist will refer patients to the appropriate health care practitioner for treatment. Like physicians and dentists, optometrists are primary health care professionals.

The scope of optometry practice requires an understanding of the development of vision from infancy through adulthood, and the therapeutic and rehabilitative methods required to care for the problems of vision from infancy through the declining years.

Optometry is the largest eye care profession and one of the largest independent health care professions in the United States. Currently, some 28,900 doctors of optometry practice in America. They are widely distributed across the nation, practicing in more than 7,100 different municipalities. In more than 4,300 of these communities, they are the only primary care provider. As such, doctors of optometry provide the major portion of primary eye care services in the United States.

Studies have indicated that a ratio of one practicing doctor of optometry to every 7,000 people (a ratio of 14.3 practicing doctors of optometry per 100,000 population) is a reasonable average for the United States. Despite recent growth in the profession, few states meet this criteria.

As our society becomes more technically oriented, vision requirements become more exacting. The number of persons needing professional help for reading and other near-point visual tasks, including both older citizens and school children, is steadily growing. Increased demands for vision care result not only from population growth but also from increased understanding of how good vision relates to industrial production, student achievement, adjustments to aging, and other areas crucial to modern society.

The patients whom the practicing doctors of optometry treat may have varied and challenging needs. On any given day, an optometrist might be involved in restoring vision to a partially sighted patient; fitting glasses for a child whose vision problem is affecting academic achievement; treating an eye infection with antibiotics; improving the function of a patient's eyes through vision training; helping an elderly patient in a nursing home cope with changing vision through critical eye health education; and performing comprehensive eye examinations for those who need glasses or contact lenses to correct astigmatism, nearsightedness, and numerous other vision problems.

The practice of optometry offers independence, flexibility, and diversity. Doctors of optometry have a wide range of modes of practice. They may choose to practice in the inner cities, suburbs, and rural areas. Opportunities exist for solo practice, associateship, optometric or multidisciplinary group practice, government or military service, clinical or hospital practice, teaching, and research.

Optometry is a rewarding career, both economically and personally. Based on data from the Bureau of Labor Statistics and surveys by professional associations, optometry is one of the top 10 income-earning professions in the country.

Graduate Degrees

The master of science program provides research-oriented training beyond that offered in the professional program in optometry. Many optometry schools require that applicants for faculty positions hold an M.S. or Ph.D. degree as well
as an O.D. degree. Additional employment possibilities for individuals with M.S. degrees are found in industry and in public and private research foundations.

The Ph.D. program prepares students as research professionals in vision science. Employment opportunities are available in college or university teaching and research, in research institutes, and in industry. Within academic optometry, individuals with both O.D. and Ph.D. degrees are in high demand as faculty members.
Course Descriptions

The following 8000 (500)-level courses are taken in the Doctor of Optometry (O.D.) program.

509(8010) Gross Anatomy, Physiology and Disease Process I (5)
First in a two-semester course sequence that will detail the general anatomy of the human body along with the histology (microanatomy), physiology and disease processes of major organ systems. Course content will be presented in a modular format. Areas of discussion will include cardiovascular, respiratory, endocrine, digestive, reproductive, integumentary, and peripheral and autonomic nervous systems. The laboratories will emphasize and augment important concepts introduced in the classroom environment.

505(8020) Geometric Optics (4)
Prerequisite: Consent of instructor. The principles of geometric optics as applied to refracting and reflecting surfaces, thin lenses, thick lenses, and lens systems. The optics of various ophthalmic instruments and techniques will be examined.

506(8030) Practice Management I (2)
An introduction to the profession of optometry, including a consideration of the characteristics of a profession, the history of optometry, the profession's legal limitations, and major optometric organizations. The ethical basis of the practice of optometry will be explored, including a consideration of the theories and principles of normative ethics, biomedical ethics and the responsibilities of the health care practitioner, professional codes of ethics and ethical issues that arise in the practice of optometry. Ethical case studies will be extensively used. This is an interactive course, requiring active participation on the part of the student.

504(8040) Neuroanatomy (4)
Prerequisite: Consent of instructor. Detailed gross and microscopic anatomy of the human central nervous system with a special emphasis on the cranial nerves, nuclei, and the visual system.

512(8060) Biochemistry (3)
Basic concepts of general and cellular biochemistry. Study of nomenclature structure, and reactions of organic molecules. Some emphasis on visual system - tears, intraocular fluids, lens, and photochemistry.

510(8110) Gross Anatomy, Physiology and Disease Process II (4)
Prerequisite: Opt 509(8010). Continuation of Human Anatomy and Physiology and Disease Processes I.

515(8120) Ocular Optics (3)
Prerequisite: Opt 505(8020). The eye as an image forming mechanism, the schematic eyes, the optical role of the pupil, the retinal image and its evaluation. Nature, classification, and etiology of ametropia. Experimental models of refractive errors. Entoptic phenomena. Mechanism and optical aspects of accommodation.

515(8130) Physiological Optics Laboratory (1)
Experiments designed to accompany Opt 515(8120).

513(8140) Physical Optics and Photometry (2)
Prerequisite: Opt 505(8020) or consent of instructor. Basic photometric concepts, measurements of light levels, applications in ergonomics, visual and photographic optics. Physical optics including diffraction, interference, polarization, birefringence, and lasers.

519(8150) Physical Optics and Photometry Laboratory (1)
Prerequisite: Concurrent enrollment in Opt 513(8140). Experiments designed to accompany Opt 513(8140).

518(8160) Anatomy and Physiology of the Eye (5)
Prerequisite: Opt 504(8040) and Opt 508(8090) or consent of instructor. Vegetative anatomy and physiology of the eye, optic nerve, orbit, and adnexa will be discussed. This includes discussion of embryology and the dynamics of ocular fluids and includes a two-hour laboratory.

514(8180) Clinical Optometry I (2)
Selected tests for ocular assessment including case history, visual acuity, and ophthalmoscopy.

520(8220) Ophthalmic Optics (4)
Prerequisite: Opt 513(8140), 515(8120) and 519 (8150). Ophthalmic materials, physical characteristics of lenses and frames, paraxial optics of ophthalnic lenses, ophthalmic prisms, lens specifications, special lenses, multifocal lenses, unique designs, aniseikonic lenses, aberration theory and its application to lens design, lenses for low vision, protective eyewear, selecting and dispensing eyewear, management of a dispensary.

541(8230) Practice Management II (2)
Prerequisite: Opt 506(8030). Principles of human interpersonal relationships. The enhancement of listening and verbal skills will be provided. Emphasis will be preparing the student to understand and manage the many human interpersonal relationships necessary in the practice of optometry.

517(8240) Ocular Motility (3)
Prerequisite: Opt 504(8040) or consent of instructor. The anatomy, physiology, neurology, measurement, characteristics, and control of the intra and extraocular system.
524(8250) Monocular Sensory Processes (4)
Prerequisite: Opt 518(8160) or consent of instructor.
Monocular sensory mechanisms of vision, photoreception, visual neurophysiology, spatial and temporal effects, visual acuity and resolution, adaptation, brightness discrimination, and color vision. Topics include a consideration of both the psychophysical aspects and neurophysiological bases of these mechanisms.

555(8260) General Pharmacology (3)
Prerequisite: Opt 510(8110). General principles of drug actions on the organ systems, central and peripheral nervous systems, methods of administration, pharmacological actions, side effects, and drug interactions. Regulatory agencies, laws, and drug abuse.

521(8280) Clinical Optometry II (5)
Prerequisite: Opt 514(8180). Continuation of clinical optometry. Patient care in the areas of refraction, binocular integration, perimetry, and bimicroscopy.

8290 Physiological Optics Lab II (1)
Prerequisite: Opt 516(8130). Experiments designed to accompany Opt 517(8240) and Opt 524(8250),

530(8320) Ophthalmic Dispensing (1)
Prerequisite: Opt 520(8220). Clinical experience in verification and dispensing of ophthalmic materials.

532(8340) Binocular Vision and Space Perception (4)
Prerequisite: Opt 517(8240) 521(8280), and 524(8250) or consent of instructor. Binocular vision and space perception. Visual direction, theory of correspondence, fusion, rivalry, ocular dominance, and stereopsis. Developmental aspects and neurophysiological mechanisms.

535(8350) Epidemiology (2)
A review of descriptive statistics, probability sampling, correlation, and prediction. The essentials of epidemiological study procedures and a discussion of the epidemiology of vision disorders.

565(8360) Ocular Pharmacology (3)
Prerequisite: Opt 555(8260). Pharmacology principles, methods of administration, doses, contraindications, and adverse effects of drugs used for the diagnosis and treatment of abnormalities of the eye, adnexa and visual system. Ocular manifestations of systemic medications.

533(8370) Ocular Disease I (4)
The etiology, epidemiology, symptoms, signs, and course sequelae of ocular disease and anomalies. Disease and anomalies of lids, orbit, conjunctiva, cornea, sclera, iris, ciliary body, lens, vitreous, retina, choroid, and optic nerve.

531(8380) Clinical Optometry III (5)
Prerequisite: Opt 521(8280). Correlation and analysis of optometric data. Emphasis on diagnosis, prognosis, and therapy of visual problems.

568(8390) Clinical Medicine (2)
Prerequisite: Opt 522(8290) and 555(8260). Diagnostic principles and medical management. Comprehensive health history, physical examination and neurological screening with particular association to ocular health conditions. Clinical chemistry and interpretation of clinical laboratory tests, criteria for referral to other providers and emergency office procedures. Comanagement practice with other primary care physicians will be emphasized.

589(8400) Directed Readings (1)
Credit is given for independent literature review of a specific topic in any area of basic or clinical vision science. Readings are to be supervised by a two person faculty committee and at least one member of this committee must be selected from among the full-time regular faculty. Credit is awarded upon approval of a written paper regarding the selected topic. This elective may be repeated once.

588(8410) Directed Research (3)
Credit is given for independent research. Projects may be laboratory, library, or clinically based research in any area of vision science. All projects must be undertaken under the supervision of a three member faculty committee. This elective may be repeated once.

569(8420) Ocular Photography (2)
Prerequisite: Consent of instructor. Optical principles and clinical techniques in photographing the internal and external eye and its adnexa. Includes laboratory exercises on use of the most common types of clinical cameras.

598(8440) Clinical Applications of Current Topics in Visual Science (2)
(elective) Prerequisite: Consent of instructor. A seminar on the use of new discoveries in visual science in clinical optometry. Students will participate in selecting the topics, which will change from year to year, with the guidance of the instructor. The course will also include laboratory demonstrations of seminar topics.

550(8500) General Clinic I (6)
Prerequisite: Opt 8380 (531) and successful completion of all first and second year course work. The clinical examination and care of general clinic patients, along with the fitting and dispensing of lenses and frames.
553(8520) Contact Lenses I (3)

554(8540) Binocular Vision Anomalies (4)
Prerequisite: Opt 531(8310) and 532(8340) or consent of instructor. The etiology, epidemiology, symptoms, signs, and course sequela of the obstacles to binocular vision - sensory, integrative, and motor. The detection, diagnosis, prognosis, and orthoptic treatment of such anomalies. Clinical care of aniseikonas.

564(8550) Low Vision (3)
The etiology, epidemiology, symptoms, signs, and course sequela of low vision problems. Methods of testing, prognosis, selection of therapy, design of environmental and optical aids, programs of rehabilitation. Agencies, laws, public and social assistance for the partially sighted and blind.

596(8560) Public Health (2)
A review of local, state, and federal organizations involved in health care, comprehensive health planning, new trends in health care delivery, and the assessment of the quality of health care delivery. The relationship of vision care to these topics is emphasized.

556(8570) Ocular Disease II (4)
Prerequisite: Opt 533(8370). The etiology, epidemiology, systems, signs, course sequela and management of posterior segment ocular disease and the anomalies and ocular manifestations of systemic diseases. Disease, abnormalities and management of neurological conditions which affect the lids, pupils, extraocular muscles, optic nerve and visual system.

560(8600) General Clinic II (6)
Prerequisite: Opt 550(8500) and successful completion of all Fall semester third year course work. Same as General Clinic I.

557(8610) Environmental Vision (2)
This course considers the relationship of the eye and vision to all aspects of one's environment including home, work, recreation, and transportation. Emphasis will be placed on protecting the eye from injury and maximizing vision performance.

563(8620) Contact Lenses II (3)
Prerequisite: Opt 553(8520). Advanced contact lens fitting, theories, and clinical methods for astigmatic, presbyopic, keratoconic, and aphakic designs. Special considerations include the use of corneal topography, orthokeratology, disposable lenses, lenses for extended wear and lenses for color deficiencies.

582(8630) Practice Management III (3)
Prerequisite: Opt 506(8030) and Opt 541(8230). The development and management of an optometric practice from a patient and community service point of view - office design, office routine, patient care administration, personnel management, and recall systems. The establishment, development, and management of an optometric practice from a business point of view. Legal developments, governmental relationships, legislation and the legislative process, malpractice, professional ethics, taxes, fee structures, insurance, and accounting methods.

567(8640) Pediatric Optometry (3)
Prerequisite: Opt 531(8380). Special examination and management considerations of the pediatric patient. Psychological, physiological, social, and demographic aspects of early visual development. Discussion of the optometric considerations of children with learning and reading disabilities.

558(8650) Geriatric Optometry (2)
(Same as Gerontology 458(6458). Special examination and management considerations of the geriatric patient will be discussed. Psychological, physiological, social, and demographic aspects of aging, as well as ocular changes associated with the aging process will be taught.

562(8660) Contact Lens Specialty Clinic (1)
Prerequisite: Opt 553(8520) and successful completion of all Fall semester third year course work. The clinical examination and care of patients in the optometric specialty area of contact lenses.

566(8670) Ocular Assessment (1)
Prerequisite: Enrollment in General Clinic I or II. Discussion of the diagnosis and management of common clinic patient encounters via Socratic teaching techniques. Interns are encouraged to present actual cases which have been particularly challenging for them.

559(8680) Ophthalmic Lasers (1)
Principles and applications of lasers for ophthalmic use. Emphasis will be placed on demonstration where possible. Topics will include the principles, physics and safety concerns of ophthalmic lasers. Lasers used in retinal imaging, and in the care of glaucoma, cataract, refractive conditions, and cosmetic conditions will be discussed and demonstrated. Comanagement of patients requiring ophthalmic laser treatment will also be covered.

561(8690) Pediatric/Binocular Vision Specialty Clinic (1)
Prerequisite: Opt 554(8540) and successful completion of all Fall semester third year course work. The clinical examination and care of patients in the optometric specialty areas of binocular vision and pediatric vision.
573(8700) UM-St. Louis Pediatric/Binocular Vision Patient Care (3)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients in pediatric/binocular vision clinic at the University of Missouri-St. Louis University Eye Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with 574(8710) Opt and Opt 575(8720).

574(8710) UM-St. Louis Contact Lens Patient Care (3)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care in the contact lens clinic at the University of Missouri-St. Louis University of Eye Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 573(8700) and Opt 575(8720).

575(8720) UMSL Eye Health Management Patient Care (1)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care in the eye health management clinic with ophthalmologists at the University of Missouri-St. Louis University Eye Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 573(8700) and Opt 574(8710).

576(8730) Optometric Center Patient Care (6)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients at the University of Missouri-St. Louis Optometric Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 577(8740).

577(8740) Optometric Center Eye Health Management Patient Care (1)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients in the eye health management clinic with ophthalmologists at the University of Missouri-St. Louis Optometric Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 576(8730).

572(8750) East St. Louis Center Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients at the East St. Louis Eye Center. This course fulfills one of the clinic courses required for graduation.

571(8770) Community Service Rotation in Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients at St. Louis area community health centers. This course fulfills one of the clinic courses required for graduation.

586(8780) External Rotation in Institutional Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of primary care patients at external sites approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

585(8790) External Rotation in Ocular Disease Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients with ocular disease at external sites approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

579(8800) External Rotation in Pediatric/Binocular Vision Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of pediatric/binocular vision patients at an external site approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

578(8810) External Rotation in Contact Lens Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of contact lens patients at an external site approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

592(8820) External Rotation in Visual Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of low vision patients at an external site approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

570(8830) External Rotation in General Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of a general population of optometric patients at external sites approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

8760 Harvester Eye Center Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients in a private practice setting. This course fulfills one of the clinic courses required for graduation.
580(8850) Supplementary Rotation in General Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of general population of optometric patients at the UM-St. Louis University Eye Center, UM-St. Louis Optometric Center, or the UM-St. Louis East St. Louis Eye Center.

581(8840) External Supplementary Rotation in General Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of general population of optometric patients at an external site approved by the College of Optometry's Externship Council.

583(8870) Practice Management IV (2)
Prerequisite: Successful completion of all first, second, and third year course work. Further in-depth discussion in practice management.

593(8880) Clinic Seminar (1)
Prerequisite: Successful completion of all first, second, and third year course work. Presentation and discussion of interesting clinical patients. Additional clinical testing techniques and concepts. Further discussion of patient data analysis - the process of determining diagnosis, prognosis, and therapy. Further discussions in the optometric specialties.

594(8910) Topics in Geriatric Optometry (3)
Prerequisite: Opt 558(8910). This course will address concerns and options in providing optometric care to a geriatric population. New techniques, research, and public policy changes will be discussed to assist students in assembling a global perspective on delivering health care to a specific population.

591(8970) Geriatric Patient Care Delivery (3-6)
Prerequisite: Consent of Geriatric Residency Instructors. Direct optometric patient care to a population that is largely geriatric. Emphasis will be on integrating specialty care available for these patients to provide comprehensive vision care. Two hours of direct patient care per week are required per hour of credit. In addition, the student will attend weekly supervisory meetings. May be repeated with consent of instructor for a total of 18 credits. Patient care will become more independent of direct supervision and the type of patients seen will be more varied with each repeat.

The following 400-level courses may be taken in the master of science or doctor of philosophy programs in Physiological Optics.

400(6400) Sensory Processes and Perception (3)
Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. Current views on the encoding of various aspects of the visual stimulus (intensity, space, time, and wavelength) that give rise to the perceptions of brightness, contour, motion, and color will be considered in this course. The psychophysical tools available to examine visual encoding will be emphasized. Other topics will include binocular vision and depth perception, information processing approaches to visual pattern recognition, and the similarities and interactions of the visual system with the other sensory modalities.

401(6401) Visual Optics (3)
Prerequisite: Opt 406(6406), Opt 505(8020), or consent of instructor. This course deals with the optical properties of the eye. Included are a review of general optics including physical optics, paraxial and non-paraxial geometric optics, image quality, radiometry and photometry, and optical instrumentation. Topics in visual optics will include schematic eyes, measurement of the parameters of the eye, accommodation, retinal image size, refractive errors, visual axes, spectral absorption by the ocular media, and the optical performance of the eye.

402(6402) Ocular Anatomy and Physiology (3)
Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. The structures and fluids of the eye and orbit, their interactions and functions are considered in this course. Specific topics include the eyelids, tearfilm, conjunctiva, cornea, iris, ciliary body, vasculature, aqueous humor, vitreous body, and the retina.

403(6403) Psychophysical Methods and Experimental Design (3)
Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. Advanced methodology for the design and analysis of experiments in a variety of areas of visual science are considered in this course. Both basic and applied topics will be considered. Special emphasis will be placed on psychophysical methodology, signal detection analysis, and scaling techniques.

404(6404) Sensory Neuroscience (3)
Prerequisite: Opt 405(6405), Opt 504(8040), or consent of instructor. This course will deal with the neural organization of the sensory systems with an emphasis on vision. It will include a review of general neurophysiology and neuroanatomy as they relate to the processing of environmental stimuli into neural information, as well as experimental approaches utilized in neurobiology. Topics to be covered include neural transduction and sensory coding by receptors and neurons, constraints on perception defined by the functional organization of the nervous system, sensory development and plasticity as related to neural development, and evolution of sensory systems.
405(6405) Neuroanatomy (5)
Prerequisite: Graduate standing. Detailed gross and microscopic anatomy of the human central nervous system with a special emphasis on the cranial nerves, nuclei, and the visual system. Students may not receive credit for both Opt 405(6405) and Opt 504(8040).

455(6455) Visual Information Processing (2)
Prerequisite: Completion of core or consent of instructor. This course covers a variety of topics related to the computer modeling of visual problems, such as the detection of surfaces and three-dimensionality, the perception of color, and the encoding of motion. Computer models will be evaluated in terms of their efficiency, veridicality, and relation to biology.

456(6456) Oculomotor Systems (2)
Prerequisite: Completion of core or consent of instructor. The intra- and extraocular muscle systems illustrate the role of visual and other sensory information in feedback control systems. Topics include the control of eye movements, accommodation and pupil size, and their synkinetic relationship in the near triad. The anatomy, physiology, and pharmacology of the muscles, kinematics, methods of measuring eye movements, neurophysiology of eye movements, and perceptual phenomena are also discussed.

470(6470) Individual Studies in Physiological Optics (2)
Prerequisite: Consent of instructor. This course designation can be used to cover a variety of topics in visual science. In general, very specific topics of limited interest will be presented as individual studies. Individual studies and advanced topics enable the student's course of study to be sharply tuned to his or her major area of interest.

490(6490) Graduate Research in Physiological Optics (1-15)
Prerequisite: Consent of instructor. Research in an area selected by the student in consultation with faculty members. May be taken to a maximum of 10 hours for the M.S. and 15 hours for the Ph.D.

497(6497) Interdisciplinary Geriatric Care (2)
(Also Gerontology 497(6497).) Prerequisite: Consent of instructor. Interdisciplinary approaches that address the medical and social needs of the elderly will be examined. Information about geriatric care and social issues affecting the well-being of older adults will be provided. Clinical, theoretical, and educational perspectives will be presented.

499(6499) Current Topics in Optometry and Vision Science (1)
Prerequisite: Consent of instructor. This seminar course examines and analyzes current publications in eye care and vision research. May be taken as an optometry elective to a maximum of 3 hours.
Other Programs
UM-St. Louis/Washington University Joint
Undergraduate Engineering Program

Administration

William P. Darby, Dean
Ph.D., Carnegie Mellon University
Bernard J. Feldman, Associate Dean
Ph.D., Harvard University

Faculty

Philip V. Bayly, Professor and Adviser
Ph.D., Duke University
Christopher I. Byrnes, Professor
Ph.D., University of Massachusetts
Richard A. Gardner, Professor
Ph.D., Purdue University
Phillip L. Gould, Professor and Adviser
Ph.D., Northwestern University
Raimo J. Hakkinen, Professor
Ph.D., California Institute of Technology
Thomas G. Harmon, Professor
Ph.D., Massachusetts Institute of Technology
Kenneth Jerina, Professor
D.Sc., Washington University
L. Norman Katz, Professor
Ph.D., Massachusetts Institute of Technology
David A. Peters, Professor
Ph.D., Stanford University
William F. Pickard, Professor
Ph.D., Harvard University
Daniel L. Rode, Professor
Ph.D., Case Western Reserve University
Shankar M. L. Sastry, Professor
Ph.D., University of Toronto
Barbara A. Shrauner, Professor
Ph.D., Harvard University (Radcliffe)
Barry E. Spielman, Professor
Ph.D., Syracuse University
Srinivasan Sridharan, Professor
Ph.D., University of Southampton
Kevin Z. Truman, Professor and Adviser
Ph.D., University of Missouri - Rolla
James C. Ballard, Associate Professor
M.A., Washington University
Roger D. Chamberlain, Associate Professor
D.Sc., Washington University
Brian A. Wrenn, Assistant Professor
Ph.D., University of Illinois
Ricardo L. Actis, Adjunct Professor
D.Sc., Washington University
Harold J. Brandon, Affiliate Professor
D.Sc., Washington University
Alan C. Wheeler, Affiliate Professor
Ph.D., Stanford University

Other Programs

UM-St. Louis/Washington University Joint
Undergraduate Engineering Program

Mario P. Gomez, Adjunct Professor
Ph.D., Stanford University
William J. Murphy, Adjunct Professor
D.Sc., Washington University
Matthew G. Drelffe, Adjunct Associate Professor
M.S., Washington University
John D. Corrigan, Adjunct Professor and Adviser
Ph.D., University of Missouri-Rolla

General Information

The Joint Undergraduate Engineering Program of UM-St. Louis and Washington University was approved in 1993
by the University of Missouri and the Coordinating Board
for Higher Education. The program is designed to offer
course work beyond the pre-engineering courses at UM-St.
Louis and the area community colleges. Pre-engineering
and general education courses are offered at UM-St. Louis,
and upper-level engineering courses are offered in the
evenings and on Saturdays on the Washington University
campus: this schedule permits students to co-op during the
day at local engineering firms. Students will be admitted to
the upper-division program only after they have completed
an acceptable pre-engineering program. They can earn a
bachelor of science in civil engineering (B.S.C.E.), a
bachelor of science in electrical engineering (B.S.E.E.), or
a bachelor of science in mechanical engineering
(B.S.M.E.).

The B.S.C.E., the B.S.E.E., and the B.S.M.E. are
accredited by the Engineering Accreditation Commission
of the Accreditation Board for Engineering and
Technology (ABET), 111 Market Place, Suite 1050,
Baltimore, MD 21202-4012 - telephone: (410)347-7700.

Program Goal

The goal of the UMSL/WJ Joint program is consistent
with the mission of UM-St. Louis, which is to provide a
high-quality education to enhance the occupational and
professional careers of citizens in the entire region,
including the minorities and economically disadvantaged
population and to provide a well-trained, sophisticated
work force for the St. Louis region. The partnership is an
appropriate way for Washington University to share its
campus, resources, and personnel with the citizens of
Missouri.

Degree Program Educational Objectives

B.S. in Civil Engineering

The mission of the Civil Engineering Program is to
provide the students with a high quality civil engineering
education. So these students will have the ability to
practice civil engineering in the areas of structural,
transportation, environmental engineering and
construction. Also to make the students aware of the
Other Programs  
UM-St. Louis/Washington University Joint  
Undergraduate Engineering Program

Critical issues pertaining to the civil engineering profession and its impact on society. Graduates of the program will have:

- an ability to apply knowledge of basic scientific, mathematical and engineering principles to solve Civil Engineering Problems in its four sub-disciplines,
- an ability to design and conduct experiments as well as to analyze data,
- an ability to conceive and complete a comprehensive design project in one of the sub-disciplines using design standards in the context of realistic constraints,
- a sound understanding of the issues pertaining to professional practice and societal implications thereof,
- the ability to contribute as team members and leaders in the workplace, as well as in the community,
- an ability to communicate effectively through oral, written, visual, and graphic media,
- an ability to function in multi-disciplinary engineering teams in the design of a major project,
- an understanding of the need for life-long learning, professional, and ethical responsibility,
- an awareness of regional and global opportunities and challenges, contemporary issues and professionalism through exposure to practicing civil engineer and,
- an ability to relate academic learning to practical experience so that they enhance each other.

B.S. in Electrical Engineering
The mission of the Electrical Engineering program is to instill knowledge and understanding of the fundamental principles necessary to become proficient in electrical circuits, computer systems, digital and linear electronics, electromagnetic engineering, signal analysis and electrical laboratory methods. Graduates will have:

- an ability to design and analyze advanced and complex systems in at least one of the following areas: Solid-state devices and circuits  
Control components and systems Communications  
Computer software and hardware Electrical power and energy.
This ability will include the integration of thoroughly mastered mathematics and science in solving engineering problems,
- a proficiency with experimental instrumentation and techniques spanning areas of electrical energy systems and digital systems. This proficiency will include the ability to design and conduct experiments, as well as ability to analyze and interpret data,
- a proficiency in engineering design of a system, component, or process to meet desired needs,
- the ability to communicate, both orally and in writing, with special emphasis on technical writing,
- an ability to interact effectively with other people by providing experience in working with other students in teams as both a team leader and a team member,
- an understanding and appreciation of one's professional and ethical responsibility and historical and contemporary global and societal issues and
- a recognition of the need for and an ability to engage in life-long learning.

B.S. in Mechanical Engineering
Mechanical engineers are concerned with the technologies of manufacturing, energy conversion, machine design, instrumentation and control of physical processes and the environment. The mission of this undergraduate program is to prepare students for professional practice with a solid, scientifically-grounded foundation in all four major stems of mechanical engineering: mechanisms and mechanical design, dynamics and control, fluid mechanics, and thermal science and materials science. The following objectives or goals are key focal points in the mechanical engineering program. Graduates will:

- apply fundamental scientific and engineering concepts involving dynamics and systems, material science, mechanics and solids and the thermal-fluid sciences in order to identify, formulate and solve a variety of mechanical engineering problems,
- design, modify, conduct, and analyze experiments in the areas of thermal-fluid sciences, solid mechanics, and dynamical systems,
- directly perform system, process and component selection in order to satisfy specific engineering-related needs through the application of mechanical design philosophy in engineering practice,
- communicate in oral and written presentations using graphic and/or visual media appropriate for an engineering business environment,
- operate productively in individual or multidisciplinary, team-oriented projects,
- be exposed to modern developments, products and tools as they relate to engineering practice,
- be exposed to practicing engineers and their jobs and be taught the importance of high ethical and professional standards,
- obtain the broad-based education necessary to understand the impact of engineering solutions in their global and societal contexts,
- recognize the need for, and obtain tools necessary to engage in, life-long learning,
• be afforded opportunities to participate in cooperative education, internships, research experiences or international exchange programs in order to gain experience beyond the classroom.

Admission

Admission to candidacy for these degrees is granted jointly by the University of Missouri-St. Louis and Washington University.

Normally admission is granted to persons who have completed the pre-engineering program with a minimum grade point average of 2.75 over all mathematics, chemistry, physics, and introductory engineering courses (statics and dynamics). Students with less than a 2.75 grade point average, but at least a C in all their science and math courses, may be admitted on a probationary basis. These students must pass a mathematics workshop with a grade of B or better, and then pass JEMT 217(3170) (Engineering Mathematics) and JEE 180(2800) (Introduction to Electrical Networks) with a C- or better, in order to continue in the program.

Degree Requirements

Bachelor of Science in Civil Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Mechanical Engineering

A program of 137 semester hours is required for the Bachelor of Science in Civil Engineering, a program of 127 semester hours is required for the Bachelor of Science in Electrical Engineering, and a program of 139 semester hours is required for the Bachelor of Science in Mechanical Engineering, as shown below

All majors must complete the University General Education requirements, the Pre-Engineering Requirements and the Core Engineering Requirements. Except with special permission of the program faculty, to be eligible to take the other upper-level engineering courses (those with course numbers starting with the letter "J")

All students must first complete JEMT 217(3170), Engineering Mathematics, with a minimum grade of C-.

Mechanical and Electrical Engineering majors must also complete JEE 180(2800), Introduction to Electrical Networks with a minimum grade of C-.

Civil engineering majors must complete either JEE 180(2800), Introduction to Electrical Networks, or JCHE 343(4430), Environmental Engineering Chemistry, with a minimum grade of C-.

A minimum grade of C- is necessary to meet the prerequisite requirement for any course.

Other Programs

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

Pre-Engineering Requirements
Mathematics 80(1800), Analytic Geometry/Calculus I
Mathematics 175(1900), Analytic Geometry/Calculus II
Mathematics 180(2000), Analytic Geometry/Calculus III
Mathematics 202(2020), Differential Equations
Chemistry 11(1111), Introductory Chemistry I
Chemistry 12(1121), Introductory Chemistry II
Physics 111(2111), Physics: Mechanics and Heat
Physics 112(2112), Physics: Electricity, Magnetism and Optics

Engineering 144(2310), Statics
Engineering 145(2320), Dynamics
English 10(1100), Composition

Humanities and Social Sciences Electives
The student's choice of humanities and social sciences electives must meet both the UM-St. Louis General Education Requirements and the Humanities and Social Sciences Requirements of the Joint Undergraduate Engineering Program. Check with your adviser for details.

In particular:
• A course in American history or government or in Missouri history or government must be included.
• The cultural diversity requirement must be fulfilled.

At least 8 credit hours must be in one department or area within humanities or social sciences; of these 8 credit hours, at least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.

• Some courses that fulfill the humanities [H] or social sciences [SS] breadth of study requirement do not count as Humanities and Social Sciences Electives; an example would be a statistics course taught in economics or psychology. See the Office of the Joint Undergraduate Engineering Program for a listing of courses that do not count as Humanities or Social Sciences Electives in this program, or check with your adviser.

Engineering Core Requirements
JCS 36(1360), Introduction to Computing
JEMT 217(3170), Engineering Mathematics
JEC 210(3100), Engineering Communications
JME 220(3200), Thermodynamics
JME 331/JEE 331(4310), Control Systems I*
JEE 180(2800), Introduction to Electrical Networks* OR JCHE 343(4430), Environmental Engineering Chemistry
JEE 150(2500), Electrical Laboratory I*

*Required for electrical and mechanical engineering majors only.

Civil Engineering Major Requirements
JCE 45(1451), Engineering Graphics
JCE 116(2160), Surveying
JCE 241(3410), Structural Analysis
JCE 242(3420), Structural Design

*Required for electrical and mechanical engineering majors only.
Other Programs
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Electrical Engineering Major Requirements
JEMT 226(3261), Probability and Statistics for Engineering
JEE 160(2609), Digital Computers I
JEE 190(2900), Introduction to Digital and Linear Electronics
JEE 214(3149), Engineering Electromagnetic I: Fundamentals
JEE 227(3270), Power, Energy, and Polyphase Circuits
JEE 279(3790), Signal Analysis for Electronic Systems and Circuits
JEE 316(4160), Electrical Energy Laboratory
JEE 355(4550), Digital Systems Laboratory
JEE 380(4800), Senior Design
Electrical Engineering Electives (200-399)

Mechanical Engineering Major Requirements
JEMT 226(3261), Probability and Statistics for Engineering
JME 041A(1414), Introduction to Engineering Design: Project
JME 041B(1415), Introduction to Engineering Design: CAD
JME 141(2410), Mechanics of Deformable Bodies
JME 221(3210), Energetics for Mechanical Engineers
JME 224(3221), Mechanical Design and Machine Elements
JME 270(3700), Fluid Mechanics
JME 280(3721), Fluid Mechanics Laboratory
JME 271(3710), Principles of Heat Transfer
JME 281(3722), Heat Transfer Laboratory
JME 317(4170), Dynamic Response of Physical Systems
JME 318(4180), Dynamic Response Laboratory
JME 390(4040), Mechanical Engineering Design Project
JME 395(4041), Current Topics in Mechanical Engineering Design
Mechanical Engineering Electives (200-399)

Graduation Requirements
In addition to the requirements of the University of Missouri-St. Louis that apply to all candidates for undergraduate degrees, the student must earn a minimum campus grade point average of 2.0 and a minimum grade point average of 2.0 for all engineering courses attempted at the University of Missouri-St. Louis.

Minor in Environmental Engineering Science
A program of 18 semester hours is required to earn the minor in environmental engineering science. The minor is designed to provide formal recognition to recipients of bachelor's degrees in civil, electrical, or mechanical engineering that they have acquired the education necessary for entry-level careers as environmental professionals. They will also have a solid foundation to undertake graduate-level education in environmental engineering science.

Enrollment in all courses in the minor in environmental engineering science is limited to students who have been admitted to candidacy for the bachelor of science in civil engineering, the bachelor of science in electrical engineering, or the bachelor of science in mechanical engineering in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program. The minor may be awarded only to students who earn the bachelor of science in civil engineering, the bachelor of science in electrical engineering, or the bachelor of science in mechanical engineering in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program.

JCHE 343(4430), Environmental Engineering Chemistry
JCE 252(3520), Environmental Engineering Science (EE, ME majors) OR
JCE 375(4750), Introduction to Urban Planning (CE majors)
JCE 308(4080), Environmental Engineering Laboratory - Water/Soil OR
JCE 309(4090), Environmental Engineering Laboratory - Air
JCE 382(4820), Design of Water Quality Control Facilities
JEP 337(4370), Environmental Risk Assessment
JEP 361(4610), Introduction to Environmental Law and Policy

Engineering Design and Engineering Science Requirements
The number of semester hours assigned to each engineering course in the Joint Undergraduate Engineering Program is further divided into hours of engineering design, engineering science, and basic science content. Engineering topics is the sum of engineering science hours and engineering design hours. The following table shows
the design hours and engineering science hours for courses in the engineering programs.

Each engineering student must complete a curriculum that contains at least 48 hours of engineering topics semester hours, including all courses: pre-engineering requirements, engineering core requirements, major requirements, and electives. Civil, electrical, and mechanical engineering majors should consult with their advisers to select electives at the 200 and 300 level that include sufficient engineering design and engineering science content to produce the required totals. Transfer courses from other institutions do not necessarily have the same engineering science and engineering design content as their equivalents in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program. Students who include transfer courses in their curricula should consult with their advisers to be sure that these requirements are met.

Fees

Students register on the UM-St. Louis campus and pay UM-St. Louis fees plus an engineering fee for both pre-engineering and engineering courses. Limits on enrollments are determined by the availability of resources.

Career Outlook

Engineering is one of the few careers in which the bachelor's degree is a professional degree. Students earning a bachelor of science degree in one of the engineering disciplines are well qualified for entry-level engineering positions in a variety of businesses, industries, consulting firms, and government agencies. As society becomes increasingly dependent on technology, the outlook for all engineering disciplines becomes increasingly bright. Engineering careers typically rank at, or very near, the top of virtually any published rating of promising jobs for the 21st Century. Besides tackling challenging technical problems, roughly two-thirds of all engineers will have some level of management responsibility within ten years of receiving their bachelor's degrees. Many practicing engineers will eventually continue their education by pursuing graduate degrees on a part-time basis. Typical areas of graduate study include all advanced technical and scientific fields and management.
### UM-St. Louis/Washington University Joint Undergraduate Engineering Program

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Semester Hours</th>
<th>Engineering Design</th>
<th>Engineering Science</th>
<th>Course Number</th>
<th>Semester Hours</th>
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For Further Information

For information about enrolling in this program, please contact the UM-St. Louis/Washington University Joint Undergraduate Engineering Program at (314) 516-6800, or the Washington University School of Engineering and Applied Science at (314) 935-6100.
Course Descriptions

Prerequisites may be waived by consent of the joint program faculty.

Engineering

10(1010) Introduction to Engineering (1)
Course consists of a series of lectures on engineering fields of study within engineering, the engineering profession, types of work activities, and professional registration. Introduction to team building and the teamwork approach to projects and problem-solving common in an engineering curriculum and in the engineering profession. Guest lecturers will participate.

144(2310) Statics (3)
Prerequisite: Math 175(1900) and Physics 111(2111). Statics of particles and rigid bodies. Equivalent systems of forces. Distributed forces: centroids. Applications to trusses, frames, machines, beams, and cables. Friction. Moments of inertia. Principle of virtual work and applications.

145(2320) Dynamics (3)

All courses listed below require admission to candidacy for a degree in the UM-St. Louis/ Washington University Joint Undergraduate Engineering Program. Prerequisites may be waived by consent of the Joint Program faculty. Audits are not permitted.

Chemical Engineering

JCHE 343(4430) Environmental Engineering Chemistry (3)
Prerequisite: Chemistry 12(1121). Introduction to the engineering aspects of air, water, soil, and geosphere chemistry. Toxicology and hazardous wastes. Pollution sources, dynamics, and ultimate fates. Sampling, control strategies, and regulations.

Civil Engineering

JCE 045(1451) Engineering Graphics (3)
Prerequisite: Junior standing. Techniques in graphic communication and problem solving and design utilizing freehand sketches and computer graphics. Principles of orthographic projection, pictorial drawing, sectional views, dimensioning and tolerancing. Computer drawing and modeling: layout techniques, editing commands, drawing management, and plotting. Design project: individual or small group assignments, the design process, preliminary sketches, analysis, project modeling, detail and assembly drawings. This course is required for civil engineering majors.

JCE 116(2160) Surveying (3)
Horizontal and vertical control surveys, including traverses, triangulation, trilateration, and leveling; basic adjustments of observations; geodetic data; coordinate systems. Basic route surveying, including horizontal and vertical curves.

JCE 236(3360) Civil Engineering Materials Lab (1)

JCE 241(3410) Structural Analysis (3)

JCE 242(3420) Structural Design (3)
Prerequisites: JME 225(3250) and JCE 241(3410). Fundamentals of structural design in steel, reinforced concrete, and timber. Familiarization with the sources of various design codes and practice in interpreting them. Computer graphics applications.
JCE 252(3520) Environmental Engineering Science (3)
Prerequisite: JME 270(3700) (may be taken concurrently) or permission of instructor. Application of the basic principles of chemistry, microbiology, and fluid mechanics to the analysis of environmental problems, especially those involving control of water and land contamination. Properties of municipal and industrial waste water, solid waste, and hazardous waste. Estimation of assimilative capacity and other characteristics of receiving waters. Introduction to unit processes and unit operations used in the treatment of municipal and industrial waste water. Design of processes and facilities used for treating drinking water, wastewater, and sludge disposal. Waste minimization and recycling in both industrial and municipal settings.

JCE 274(3740) Hydraulics and Hydrology (3)
Prerequisite: JME 270(3700) (may be taken concurrently). The concepts and theory of hydraulics and hydrology are discussed through lectures and practical engineering applications. Open channel flow, hydrograph analysis, watershed hydrology, frequency concepts, hydraulic design, and sedimentation are addressed.

JCE 276(3760) Open Channel Hydraulics (3)
Prerequisite: JME 270(3700). The principles of open channel flow will be discussed and illustrated with practical examples. Methods for channel design, storm sewer, culvert and bridge analysis will be presented using the concepts of gradually-varied, steady flow. A design project using computerized analysis and design is used to implement concepts in a large practical application.

JCE 300(4000) Independent Study (1-6)
Prerequisites: Junior standing and consent of faculty adviser. Independent investigation of a civil engineering topic of special interest to a student performed under the direction of a faculty member.

JCE 308(4080) Environmental Engineering Laboratory - Water/Soil (3)
Prerequisite: JCHE 343(4430). Laboratory experiments to illustrate the application of engineering fundamentals to environmental systems. Characterization and control of water/soil pollutants. Introduction to relevant analytical instrumentation and laboratory techniques. Laboratory work supported with theoretical analysis and modeling as appropriate.

JCE 309(4090) Environmental Engineering Laboratory - Air (3)
Prerequisite: JCHE 343(4430). Laboratory Experiments to illustrate the application of engineering fundamentals to environmental systems. Characterization and control of air pollutants. Introduction to relevant analytical instrumentation and laboratory techniques. Laboratory work supported with theoretical analysis and modeling as appropriate.

JCE 310(4100) Design of Timber Structures (3)
Prerequisites: JCE 241(3410) and JCE 242(3420). Study of basic physical and mechanical properties of wood and design considerations. Design and behavior of wood beams, columns, beam-columns, connectors, and fasteners. Introduction to plywood and glued laminates members. Analysis and design of structural diaphragms and shear walls.

JCE 316(4160) Introduction to Elasticity (3)
Prerequisites: JCE 141. Introduction to elasticity: indicial notation, stress and strain, material laws. Plane stress and plane strain problems and illustrations. Torsion of prismatic bars. Energy principles: virtual work, potential energy and complementary energy theorems, reciprocal theorems. Introduction to plates and shells.

JCE 319(4190) Soil Mechanics (3)

JCE 320(4200) Soil Exploration and Testing (1)
Prerequisite: JCE 319(4190) (may be taken concurrently). Soil exploration; in-situ testing, laboratory testing of soil; processing of test data using a microcomputer; statistical analysis of test data; use of test results in the decision-making process.

JCE 325(4250) Professional Engineering Services (3)
Prerequisites: Senior standing. An introduction to the use and integration of professional services for Project Design and Delivery Systems in construction projects will be presented. The relationship between owner and the professional service personnel, architects, engineers, contractors and construction managers will be explored in detail. The role, techniques, procedures, management principles, and professional responsibilities will be presented and discussed. Real projects will be presented to illustrate the various project delivery systems used in design and construction. These points will be illustrated through a semester long term project.

JCE 337(4370) Matrix Structural Analysis (3)
Prerequisites: JCE 241(3410). This course will cover analysis of framed structures, planar and 3-D, using beam-column elements and shear walls and floors. Flexibility and stiffness analyses are performed by generating the matrices and carrying through the analyses step by step with a matrix manipulator program. A commercially available program is used to check at least one problem.
JCE 339(4390) Computational Structural Mechanics (3)
This course is an introduction to analysis and design of structures using finite elements. The topics covered include: elementary theory of elasticity, plate theories and buckling of plate structures, finite element formulation of 2-D elasticity and plate problems. Hands on use of commercial finite element software is emphasized throughout. A major design project is included.

JCE 358(4580) Structural Stability (3)
Prerequisites: Senior standing. This course will cover the following topics: classification of instability phenomena; imperfection sensitivity; illustration with mechanical models; systems with finite degrees of freedom; postbuckling analysis using perturbation techniques; stability and nonlinear behavior of columns, plates, and cylindrical shells; nonconservation problems; and numerical methods.

JCE 360(4600) Highway and Traffic Engineering (3)
Prerequisites: JCE 116(2160) and senior standing. Study of basic highway design and traffic circulation principles. Study of design elements of alignment, profile, cross-section, intersection types, interchange types, and controlled-access highways. Investigation of functional highway classification. Traffic volume, delay and accident studies. Analysis of highway capacity of uninterrupted flow, interrupted flow. Freeway, ramp, and weaving sections.

JCE 362(4620) Transportation Planning (3)
Prerequisites: Senior standing. This course will cover the following topics: fundamentals of multimodal transportation planning; urban study components, including study design and organization, origin-destination analysis, traditional traffic model processes of trip generation, distribution and assignment; urban transportation entity analysis (shopping centers, terminals, etc.); state and regional study components, including state and national needs and capital improvement programs, regional funding capabilities and related national transportation policy and legislative acts.

JCE 364(4640) Foundations (3)
Prerequisites: JCE 242(3420), JCE 319(4190) and JCE 320(4200). Principal problems in design and construction of foundations for bridges and buildings. Bearing capacity of deep and shallow foundations; pressure on retaining walls and slope stability; modern developments in piling, cofferdams, open caissons, pneumatic caissons.

JCE 365(4650) Airport Planning and Construction (3)
Prerequisites: Senior standing. Fundamentals of airport planning location, construction, and legislative and fiscal implementation. Location principles with respect to the region and the site. Analysis of air travel demand models.

JCE 366(4660) Advanced Design of Concrete Structures (3)
Prerequisites: JME 225(3250), JCE 241(3410), JCE 242(3420). Flexural behavior and design, strength and deformation of rectangular and nonrectangular sections, shear strength, beam-columns, long columns, slab systems, design of frames, and footings will be covered.

JCE 369(4690) Construction Management Project (3)
Prerequisites: JCE 373(4730) and JEP 281(3810). The course entails the study of principles and steps involved in the development of a project from design through bidding and construction with emphasis on preconstruction planning and construction operations. The students will be required to submit a report on project budget, bidding strategy and construction schedule. Lecture topics will be supplemented by a resource pool of consultants on estimating, scheduling and contracting who will provide advice and guidance to the students.

JCE 372(4720) Legal Aspects of Construction (3)
Prerequisite: Junior standing or permission of instructor. A survey of the legal problems of the construction manager. Including but not limited to, liability in the areas of contracts, agency, torts, assurance, bad judgment and oversight.

JCE 373(4730) Construction Operations and Management (3)
Prerequisite: Junior standing. The construction industry, its development, components, and organization. Contracting methods. Applications and limitations. Selection of equipment using production analysis and economics. Field engineering, including form design, shoring, embankment design. Purchasing and change orders. Safety and claims.

JCE 374(4740) Economic Decisions in Engineering (3)
Prerequisite: Junior standing. Principles of economics involved in engineering decisions. Decisions between alternatives based on the efficient allocation of resources. Topics include the time element in economics, analytical techniques for economy studies, and taxes.
JCE 375(4750) Introduction to Urban Planning (3)
Prerequisite: Senior standing. A focus on the fundamental factors and techniques that the civil engineer must consider: population, economic base, land use, urban design, regional analysis, fiscal analysis, zoning, and public facilities analysis. Synthesis of these techniques into a major student project, typically involving groups of three to six students. Each project is assigned by the instructor and usually involves a real-life situation or problem that requires original data collection. In-class presentation, discussion, and critique of each group project.

JCE 376(4760) Site Planning and Engineering (3)
Prerequisite: Senior standing. A focus on the legal, engineering, and economic aspects of planning and design of facilities at a site-specific level. Concepts of legal and economic feasibility of site design are developed in conjunction with the study of civil engineering activities involved in dealing with urban design alternatives for residential, commercial, industrial, and recreational land uses. Case studies and review of current legislation affecting site planning and engineering are undertaken, culminating in a major design project.

JCE 377(4770) Decision Analysis and Construction Applications (3)
Introduction and application of systems engineering and statistics toward solving construction and civil engineering problems. Included are the following topics: network and linear programming models, construction and evaluation of decision trees to clarify choice of actions under uncertainty, probability distributions, sample statistics, linear regression models, sampling plans for quality assurance. Personal computer usage emphasized for problem solving.

JCE 378(4780) Knowledge-Based Expert Systems in Civil Engineering (3)
Prerequisite: JCS 36(1360) or equivalent. Topics relating to the development of expert systems discussed with emphasis on application in civil and structural engineering. Subjects include knowledge engineering, frame- and rule-based expert systems, use of expert shells and tools, prototyping, and reasoning with uncertainty. Case studies and computer exercises supplement lectures. Students are expected to develop a prototype expert system.

JCE 380(4800) Computer Applications in Construction Management (3)
Prerequisite: JCE 373(4730). A comprehensive study of computer applications in construction management. Topics include: configuration of hardware/software requirements for the management of a typical project; application programs used in project date base management and project schedule/cost control systems; data management techniques and development of custom reports for use in project management and control.

JCE 382(4820) Design of Water Quality Control Facilities (3)
Prerequisite: JCE 252(3520). Application of environmental engineering principles to design of water and wastewater treatment facilities. Critical review of process design issues associated with physical, chemical, and biological treatment processes. Definition of problems and objectives, evaluation of alternatives, and use of these concepts in process design. Design-oriented class/group project.

JCE 384(4840) Probabilistic Methods in Civil Engineering Design (3)

JCE 386(4860) Design of Masonry Structures (3)
Prerequisite: JCE 242(3420). History of masonry construction; masonry materials and components; loadings for masonry structures; fundamentals of working stress design; fundamentals of strength design; design of gravity load resisting elements; design of lateral load resisting elements; details, connections and joints; design of low-rise buildings; design of high-rise buildings; design for water penetration resistance; quality control/inspection.

JCE 394(4940) Public Transportation Technology (3)
Prerequisites: JCE 362(4620). An in-depth study and analysis of conventional and emerging public transportation state-of-the-art systems. Brief review of conventional transportation systems, study of bus-rapid systems, demand responsive bus systems, personal rapid transit, dual-mode, guide-way and automated freeway systems, and high-speed rail TACV systems. Review of current Department of Transportation Administration-Urban Mass Transportation Administration New Systems Research and Demonstration Programs. Students will be responsible for a major project endeavor at conclusion of course.
JCE 399(4990) Senior Civil Engineering Seminar
Prerequisite: Senior standing. Students will research assigned topics of importance to graduates entering the Civil Engineering profession and prepare oral presentations and a written report. Student presentations will be augmented by lectures from practicing professionals. Topics include professional registration, early career development, graduate study, effective presentations, construction quality, and case histories of civil engineering projects.

Computer Science

JCS 36(1360) Introduction to Computing (4)
Workshop course (lectures and supervised laboratory sessions) covering the fundamental organization and operating principles of digital computers and the systematic design and development of well-structured programs. After an intensive exposure to algorithmic principles and programming techniques and practices using the JAVA language, students learn about a computer's internal structure through the use of a simple Von Neumann machine simulator.

Electrical Engineering

JEE 150(2500) Electrical Laboratory I (3)
Prerequisite: JEE 180(2800). Lectures and laboratory exercises related to sophomore topics in introductory networks and basic electronics.

JEE 160(2609) Digital Computers I: Organization and Logical Design (3)
Prerequisite: JCS 36(1360). Digital computers and digital information-processing system; Boolean algebra, principles and methodology of logical design; machine language programming; register transfer logic; microprocessor hardware, software, and interfacing; fundamentals of digital circuits and systems; computer organization and control; memory systems; arithmetic unit design. Occasional laboratory exercises.

JEE 180(2800) Introduction to Electrical Networks (3)
Prerequisites: Physics 112(2112) and Math 202(2020) (may be taken concurrently). Elements, sources, and interconnects. Ohm's and Kirchoff's laws, superposition and Thevenin's theorem; the resistive circuit, transient analysis, sinusoidal analysis, and frequency response.

JEE 190(2900) Introduction to Digital and Linear Electronics (3)
Prerequisite: JEE 180(2800). Introduction to contemporary electronic devices and their circuit applications. Terminal characteristics of active semiconductor devices. Incremental and D-C models of junction diodes, bipolar transistor (BJTs), and metal-oxide semiconductor field effect transistors (MOSFETS) are developed and used to design single- and multi-stage amplifiers. Models of the BJT and MOSFET in cutoff and saturation regions are used to design digital circuits.

JEE 214(3149) Engineering Electromagnetics I: Fundamentals (3)
Prerequisite: JEMT 217(3170). Electromagnetic theory as applied to electrical engineering: vector calculus; electrostatics and magnetostatics; Maxwell's equations, including Poynting's theorem and boundary conditions; uniform plane-wave propagation; transmission lines - TEM modes, including treatment of general, lossless line, and pulse propagation; introduction to guided waves; introduction to radiation and scattering concepts.

JEE 227(3270) Power, Energy, and Polyphase Circuits (3)
Prerequisite: JEE 180(2800). Fundamental concepts of power and energy; electrical measurements; physical and electrical arrangement of electrical power systems; polyphase circuit theory and calculations; principle elements of electrical systems such as transformers, rotating machines, control, and protective devices, their description and characteristics; elements of industrial power system design.

JEE 262(3629) Digital Computers II: Architecture (3)
Prerequisite: JEE 160(2609). Study of interaction and design philosophy of hardware and software for digital computer systems: Machine organization, data structures, I/O considerations. Comparison of minicomputer architectures.

JEE 279(3790) Signal Analysis for Electronic Systems and Circuits (3)
Prerequisites: JEE 180(2800) and JEMT 217(3170). Elementary concepts of continuous-time and discrete-time signals and systems. Linear time-invariant (LTI) systems, impulse response, convolution, Fourier series, Fourier transforms, and frequency-domain analysis of LTI systems. Laplace transforms, Z-transforms, and rational function descriptions of LTI systems. Principles of sampling and modulation. Students participate weekly in recitation sections to develop oral communications skills using class materials.

JEE 280(3800) Network Analysis (3)
JEE 290(3900) Principles of Electronic Devices (3)
Prerequisite: Physics 112(2112). Introduction to the solid-state physics of electronic materials and devices, including semiconductors, metals, insulators, diodes and transistors. Crystal growth technology and fundamental properties of crystals. Electronic properties and band structure of electronic materials, and electron transport in semiconductor materials. Fabrication of pn junction diodes, metal-semiconductor junctions, and transistors and integrated-circuit chips. Fundamental electrical properties of rectifying diodes and light-emitting diodes, bipolar transistors and field-effect transistors. Device physics of diodes and transistors, large-signal electrical behavior and high-frequency properties.

JEE 292(3920) Electronic Devices and Circuits (3)

JEE 310(4100) Engineering Electromagnetics II: Applications (3)
Prerequisite: JEE 214(3149). Study of important applications of electromagnetic theory. Solution of electrostatic and magnetostatic problems involving Laplace and Poisson's equations subject to boundary conditions. Maxwell's equations, including boundary conditions for dielectrics and conductors, reflection and transmission characteristics with effects due to losses. Study of guided waves in rectangular and optical waveguides, including effects of dispersion. S-parameters and transmission networks, including S-matrix properties, relation to impedance, reflection coefficient, VSWR, and Smith chart. Study of antennas, including exposure to terminology and thinwire antennas.

JEE 314(4140) Solid State Power Circuits & Applications (3)
Prerequisites: JEE 190(2900), JEE 279(3790). Study of the strategies and applications of power control using solid-state semiconductor devices. Survey of generic power electronic converters. Applications to power supplies, motor drives, and consumer electronics. Introduction to power diodes, thyristors, and MOSFETs.

JEE 316(4160) Electrical Energy Laboratory (3)
Prerequisite: JEE 150(2500). Experimental studies of principles important in modern electrical energy systems. Topics: power measurement, transformers, batteries, static frequency converters, thermoelectric cooling, solar cells, electrical lighting, induction, commutator, and brushless motors, synchronous machines.

JEE 321(4210) Communications Theory and Systems (3)
Prerequisites: JEE 279(3790) and JEMT 226(3261). Introduction to the concepts of transmission of information via communication channels. Amplitude and angle modulation for the transmission of continuous-time signals. Analog-to-digital conversion and pulse code modulation. Transmission of digital data. Introduction to random signals and noise and their effects on communication. Optimum detection systems in the presence of noise. Elementary information theory. Overview of various communication technologies such as radio, television, telephone networks, data communication, satellites, optical fiber, and cellular radio.

JEE 327(4270) Special Topics in Real-Time Processing (3)
Prerequisite: Senior Standing. Microcontrollers and digital signal processors are often utilized in applications such as communications systems, automotive control systems, biomedical instrumentation, consumer appliances, and industrial control systems. The purpose of this course is to examine a variety of issues regarding the real-time application of embedded microprocessor systems. Topics will include digital processing, the operation of sensors and transducers, signal representation, system design and software development. Classes will include lecture and laboratory sessions. Depending on student interest, exemplary applications from the following list will be studied: automotive control, biomedical instrumentation, communication systems, speech processing, data compression, and audio and acoustic processing.

JEE 331(4310) Control Systems I (3)
Prerequisites: JEMT 217(3170), JEE 180(2800) [same as JME 331(4310)] Introduction to automatic control concepts. Block diagram representation of single and multiloop systems. Multi-input and multi-output systems. Control system components. Transient and steady-state performance; stability analysis; Routh, Nyquist, Bode, and root locus diagrams. Compensation using lead, lag and lead-lag networks. Synthesis by Bode plots and root-locus diagrams. Introduction to state-variable techniques, state-transition matrix, state-variable feedback.
JEE 332(4320) Control Systems II (3)
Prerequisite: JME 331(4310). The control of physical systems with a digital computer, microprocessor, or special-purpose digital hardware is becoming very common. Course continues JME 331(4310) to develop models and mathematical tools needed to analyze and design these digital, feedback-control systems. Linear, discrete dynamic systems. The Z-transform. Discrete equivalents to continuous transfer functions. Sampled-data discrete dynamic systems. The Z-transform. Discrete common. Course continues JME 331(4310) to develop transfer and state-space methods synthesis of discrete-time)inear time-invariant digital and continuous subsystems. Quantization effects. System identification. Multivariable and optimum control.

JEE 345(4450) Digital Signal Processing (3)

JEE 355(4550) Digital Systems Laboratory (3)
Prerequisites: JEE 160(2609) and JEE 190(2900). Procedures for reliable digital design, both combinational and sequential; understanding manufacturers' specifications; use of special test equipment; characteristics of common SSI, MSI, and LSI devices; assembling, testing, and simulating design; construction procedures; maintaining signal integrity. Several single-period laboratory exercises, several design projects, and application of a microprocessor in digital design. Microprocessor programs are written in assembly language on a host computer and down loaded to the laboratory station for debugging. One lecture and one laboratory period a week.

JEE 358(4580) Computer-Aided Design of Electronic Systems (3)
Prerequisites: JEE 190(2900) and 279(3790). Introduction to computer-aided techniques in the solution of network and electronic design problems, including filters; analysis of linear and nonlinear circuits; methods for numerical integration, evaluation of the Fourier integral; numerical methods for solving differential equations, automated methods for design; sparse matrix techniques. Use of problem-oriented languages such as SPICE. Methods for the analysis and design of digital circuits and systems.

JEE 360(4600) Digital Computers: Switching Theory (3)
Prerequisite: JEE 160(2609). Advanced topics in switching theory as employed in the analysis and design of various information- and material-processing systems. Combinational techniques; minimization, logic elements, bilateral devices, multiple output networks, symmetrical and iterative functions, threshold logic, state identification and fault detection, hazards, and reliable design. Sequential techniques: synchronous circuits, state tables, machine minimization, state assignment, asynchronous circuits, finite state machines.

JEE 363(4630) Digital Integrated Circuit Design and Architecture (3)
Prerequisite: JEE 190(2900) and JEE 262(3629). Brief review of device characteristics important to digital circuit operation, followed by detailed evaluation of steady-state and transient behavior of logic circuits. Implications of and design techniques for very large-scale integrated circuits including architecture, timing, and interconnection. Students must complete detailed design and layout of a digital circuit. Major emphasis on MOS digital circuits with some comparisons to other technologies.

JEE 364(4640) Digital Systems Engineering (3)
Prerequisite: JEE 190(2900). Design and characterization of digital circuits, reliable and predictable interconnection of digital devices, and information transfer over busses and other connections. Topics include: Review of MOSFET operation; CMOS logic gate electrical characteristics; System and single-point noise margin and noise budgets; Figures of merit for noise-margin and power-delay product, and tradeoff between noise margin and propagation delay; Transmission-line driving including reflection, termination, non-zero transition time; lumped and distributed capacitance loads, non-linear terminations, and applicable conditions for lumped approximations; Coupled transmission lines, forward and backward crosstalk, short line approximations, ground bounce, and simultaneous switching noise; Timing, clocking, and clock distribution for digital circuits; Prediction of metastability error rates and design for acceptable probability of failure. Examples and design exercises using systems and interconnections selected from current Computer Engineering practice such as RAMBUS, PCI bus, GTL, LVDS, and others.

JEE 368(4681) Applied Optics (3)
Prerequisite: JEE 214(3149). Topics relevant to the engineering and physics of conventional as well as experimental optical systems and applications explored. Items addressed include geometrical optics, Fourier optics such as diffraction and holography, polarization and optical birefringence such as liquid crystals, and nonlinear optical phenomena and devices.
JEE 380(4800) Senior Design Project (3)
Prerequisite: Senior standing. Working in teams, students address design tasks assigned by faculty. Each student participates in one or more design projects in a semester. Projects are chosen to emphasize the design process, with the designer choosing one of several paths to a possible result. Collaboration with industry and all divisions of the university is encouraged.

**Engineering and Policy**

JEP 281(3810) Topics in Engineering Management (3)
Prerequisite: Junior standing. Techniques relating to managing engineering professionals and engineering activities are introduced and discussed. The engineer's transition into project and project team management. Role of engineering and technology in major corporations. Engineering managerial functions, including production and use of financial information in planning, scheduling, and assessing engineering projects. Motivation of individual and group behavior among technical professionals. Macroeconomic factors influencing technical decision-making and engineering project management. Additional topics will vary from year to year, but will typically include government relations, regulation, compensation, ethics, production, operations, the quality function, and technological innovation.

JEP 337(4370) Environmental Risk Assessment (3)

JEP 361(4610) Introduction to Environmental Law and Policy (3)
Prerequisite: Junior standing. Survey of the most prominent federal laws governing environmental compliance and pollution control. Examines laws applicable to environmental impact statements, air pollution, water pollution, and hazardous waste. Addresses policy concerning the relative merits of using technological capabilities as compared to health risks in setting environmental standards. Discusses the need for environmental regulation to protect societal resources.

**Engineering Communications**

JEC 210(3100) Engineering Communications (3)
Prerequisites: English 10(1100) and junior standing. Persistent concerns of grammar and style. Analysis and discussion of clear sentence and paragraph structure and of organization in complete technical documents. Guidelines for effective layout and graphics. Examples and exercises stressing audience analysis, graphic aids, editing, and readability. Videotaped work in oral presentation of technical projects. Writing assignments include descriptions of mechanisms, process instructions, basic proposals, letters and memos, and a long formal report.

**Engineering Mathematics**

JEMT 217(3170) Engineering Mathematics (4)
Prerequisite: Math 202(2020). The Laplace transform and applications; series solutions of differential equations, Bessel's equation, Legendre's equation, special functions; matrices, eigenvalues, and eigenfunctions; vector analysis and applications; boundary value problems and spectral representation; Fourier series and Fourier integrals; solution of partial differential equations of mathematical physics.

JEMT 226(3261) Probability and Statistics for Engineering (3)
Prerequisite: Math 180(2000). Study of probability and statistics together with engineering applications. Probability and statistics: random variables, distribution functions, density functions, expectations, means, variances, combinatorial probability, geometric probability, normal random variables, joint distribution, independence, correlation, conditional probability, Bayes theorem, the law of large numbers, the central limit theorem. Applications: reliability, quality control, acceptance sampling, linear regression, design and analysis of experiments, estimation, hypothesis testing. Examples are taken from engineering applications. This course is required for electrical and mechanical engineering majors.
Mechanical Engineering

JME 41A(1414) Introduction to Engineering Design: Project (2)
An introduction to engineering design in the context of mechanical engineering. Students first complete a series of experiments that introduce physical phenomena related to mechanical engineering. Understanding is achieved by designing and building simple devices and machines. The course proceeds to a design contest in which the students design and build from a kit of parts a more significant machine that competes in a contest held at the end of the course. The course is open to all and is appropriate for anyone interested in mechanical devices, design, and the design process.

JME 41B(1415) Introduction to Engineering Design: CAD (2)
An introduction to engineering design in the context of mechanical engineering. Students learn the fundamentals of spatial reasoning and graphical representation. Freehand sketching, including pictorial and orthographic views, are applied to the design process. Computer modeling techniques provide accuracy, analysis, and visualization tools necessary for the design of devices and machines. Topics in detailing design for production, including fasteners, dimensioning, tolerancing, and creation of part and assembly drawings are also included.

JME 141(2410) Mechanics of Deformable Bodies (3)

JME 220(3200) Thermodynamics (3)
Prerequisites: Math 175(1900), Chemistry 11(1111) and Physics 111(2111). Classical thermodynamics, thermodynamic properties, work and heat, first and second laws. Entropy, irreversibility, availability. Application to engineering systems.

JME 221(3210) Energetics for Mechanical Engineers (3)

JME 224(3221) Mechanical Design and Machine Elements (4)
Prerequisites: JME 041B, JME 141(2410), JEMT 217(3170). Provides a thorough overview of the steps in the engineering design process and introduces analytical/quantitative techniques applicable to each step. Topics include recognition of need, specification formulation, concept generation, concept selection, embodiment and detail design. Includes an introduction to several classes of machine elements such as bearings, gears, belts, brakes, and springs. Underlying analytical model of the machine elements are presented along with guidelines about designing and choosing such elements for practical applications. A case study from industry will emphasize how the steps of the design process were done as well as the rationale for choosing particular machine elements.

JME 225(3250) Materials Science (4)
Prerequisite: Chemistry 11(1111). Introduces the chemistry and physics of engineering materials. Emphasis on atomic and molecular interpretation of physical and chemical properties, the relationships between physical and chemical properties, and performance of an engineering material.

JME 236(3251) Materials Science (3)
Prerequisite: Chemistry 11(1111). Same as JME 225(3250) but without the laboratory. Introduces the chemistry and physics of engineering materials. Emphasis on atomic and molecular interpretation of physical and chemical properties, the relationships between physical and chemical properties, and performance of an engineering material.

JME 262(3611) Materials Engineering (3)
Prerequisite: JME 225(3250). This course deals with the application of fundamental materials science principles in various engineering disciplines. Topics covered include design of new materials having unique property combinations, selection of materials for use in specific service environments, prediction of materials performance under service conditions, and development of processes to produce materials with improved properties. The structural as well as functional use of metals, polymers, ceramics, and composites will be discussed.

JME 270(3700) Fluid Mechanics (3)
JME 271(3710) Principles of Heat Transfer (3)

JME 280(3721) Fluid Mechanics Laboratory (1)
Prerequisite: JME 270(3700). Physical laboratory exercises focusing on fluid properties and flow phenomena covered in JME 270(3700). Calibration and use of a variety of equipment; acquisition, processing, and analysis of data by manual as well as automated methods.

JME 281(3722) Heat Transfer Laboratory (1)
Prerequisites: JME 280(3721) and JME 271(3710). Physical laboratory exercises, including some numerical simulations and computational exercises, focusing on heat-transfer phenomena covered in JME 271(3710). Calibration and use of variety of laboratory instrumentation; acquisition, processing, and analysis of data by manual as well as automated methods; training in formal report writing.

JME 300(4000) Independent Study (1-6)
Prerequisites: Junior standing and consent of the faculty adviser. Independent investigation of a mechanical engineering topic of special interest to a student performed under the direction of a faculty member.

JME 316(4160) Advanced Strength and Introductory Elasticity (3)
Prerequisite: JME 141(2410). Introduction to elasticity; indicial notation, stress and strain, material laws. Plane stress and strain problems and illustrations. Torsion of prismatic bars. Energy principles: virtual work, potential energy and complementary energy theorems, reciprocal theorems.

JME 317(4170) Dynamic Response of Physical Systems (2)
Prerequisites: Engineering 145(2320) and JEMT 217(3170); JME 317(4170) and JME 318(4180) must be taken during the same semester. Free and forced vibration of mechanical systems with lumped inertia, springs, and dampers. Methods of Laplace transform, complex harmonic balance, and Fourier series. Electrical analogs. Introduction to Lagrange's equations of motion and matrix formulations. Transient response of continuous systems by partial differential equations, by Rayleigh methods, and by lumped parameters.

JME 318(4180) Dynamic Response Laboratory (2)
Prerequisite: JME 317(4170) and JME 318(4180) must be taken during the same semester. Laboratory problems focusing on materials covered in JME 317(4170).

JME 319(4190) Experimental Methods in Fluid Mechanics (3)

JME 324(4240) Manufacturing Processes (3)
Prerequisite: Senior standing. Introduction to the processes used in making basic components for machines and structures. Emphasis is on the underlying scientific principles for such manufacturing processes as casting, forging, extrusion and machining.

JME 325(4250) Materials Selection in Engineering Design (3)
Prerequisite: Senior standing. Analysis of the scientific bases of material behavior in the light of research contributions of the last 20 years. Development of a rational approach to the selection of materials to meet a wide range of design requirements for conventional and advanced applications. Although emphasis will be placed on mechanical properties, other properties of interest in design will be discussed, e.g., acoustical, optical and thermal.

JME 329(4290) Flexible Manufacturing Automation (3)
Prerequisite: Senior standing. Survey of the application of robots in the automation of manufacturing industries. Use of robots to increase productivity, to improve quality or to improve safety. Special studies of applications of robots in painting, welding, inspection and assembly.
JME 331(4310) Control Systems I (3)

JME 344(4440) Solar Energy (3)
Prerequisites: JME 220(3200), JME 270(3700), and JME 271. This course will cover the following topics: extraterrestrial solar radiation; solar radiation on the earth's surface; weather bureau data; review of selected topics in heat transfer; methods of solar energy collection including flat panel and concentrating collectors; solar energy storage; transient and long-term solar system performance.

JME 350(4500) Computer-Integrated Manufacturing (3)
Prerequisite: Senior standing. Analysis and design of computer-integrated systems for discrete parts and assemblies manufacturing. Process planning, control, manufacturing decision support systems, microcomputers and networks. Programming of spatially oriented tasks, code generation, system integration. CIMLab assignments.

JME 353(4530) Facilities Design (3)
Prerequisite: Senior standing. The goal of the course is to provide the student with the information and analytical tools necessary to take a product design into production and for the design of an efficient manufacturing facility that will make the production feasible. Quantitative methods in the design of manufacturing facilities. Space allocation, assembly line design, material-handling systems, utilities and environmental design for manufacturing facilities. Facility-location selection. Plant-layout development. Building, organization, communications and support system design. Material-handling equipment, flow and packaging. Automated storage and retrieval systems design. Computer aided design of manufacturing facilities. Environmental requirements and design. Utilities design. In a major project, students will be required to analyze the design of a product and plan the manufacturing facility for its production.

JME 372(4720) Fluid Mechanics II (3)
Prerequisites: JME 220(3200) and JME 270(3700). Mechanics and thermodynamics of incompressible and compressible flows: varying-area adiabatic flow, standing normal and oblique shock waves, Prandtl-Meyer flow, Fanno flow, Rayleigh flow, turbulent flow in ducts and boundary layers.

JME 374(4740) Analysis and Design of Turbomachinery (3)
Prerequisite: Senior standing. The principles of thermodynamics and fluid dynamics applied to the analysis, design and development of turbomachinery for compressible and incompressible flows. Momentum transfer in turbomachines. Design of axial and radial compressors and turbines, diffusers, heat exchangers, combustors, and pumps. Operating characteristics of components and performance of power plants.

JME 376(4760) The Engineering Properties of Materials (3)
Prerequisite: Junior standing. A detailed look at the mechanical, chemical, and surface properties of materials. Topics include elastic properties; plastic deformation; viscoelastic behavior; chemical resistance; corrosion resistance; and the electromagnetic properties of metal, plastic, ceramic, and composite systems.

JME 378(4780) Analysis and Design of Piston Engines (3)
Prerequisite: Senior standing. The principles of thermodynamics and fluid dynamics applied to the analysis, design and development of piston engines. Examination of design features and operating characteristics of diesel, spark-ignition, stratified-charge, and mixed-cycle engines. Study of the effects of combustion, fuel properties, turbocharging and other power-boosting schemes on the power, efficiency and emission characteristics of the engines.

JME 380(4800) Building environmental Systems Parameters (3)
Sustainable design of building lighting and HVAC systems considering performance, life-cycle cost and downstream environmental impact. Criteria, codes and standards for comfort, air quality, noise/vibration and illumination. Life cycle and other investment methods to integrate energy consumption/conservation, utility rates, initial cost, system/component longevity, maintenance cost and building productivity. Direct and secondary contributions to acid rain, global warming and ozone depletion.

JME 381(4810) Air-Conditioning Systems and Equipment I (3)
JME 382(4820) Air-Conditioning Systems and Equipment II (3)

JME 390(4040) Mechanical Engineering Design Project (5)
Prerequisite: JME 141(2410), JEMT 217, JME 220(3200), JME 224 and JME 270(3700) Corequisites: JME 225(3250), JME 271(3710) and JME317(4170). Working individually, students initially perform a feasibility study for a mechanical design project. Projects consisted of an open-ended, original design or a creative redesign of a mechanical component or system requiring the application of those engineering science principles inherent to mechanical engineering. Feasibility is considered subject to economic, safety, legal, environmental, ethical, aesthetic, and other constraints in a competitive manufacturing environment. Feasible projects are then selected by teams of three to five students who perform the detailed design and optimization of the design concept developed in the feasibility study. The designs are carried out to detailed shop drawings and where possible a mockup or prototype is built. Periodic oral presentations and written reports give students practice in engineering and business communication. Guidance and consultation for the design projects are provided by the course and department faculty.

JME 395(4041) Current Topics in Mechanical Engineering Design (1)
Prerequisites: Senior Standing. Case studies of engineering failures, class discussion and short written papers are used to illustrate and stress the importance of engineering teamwork, ethics, and professional standards within the mechanical engineering discipline. Working in teams, students develop and present a case study on a topic of their choice. Guest lecturers introduce contemporary topics such as product liability, environmental regulations, green design, appropriate technologies, and concurrent engineering.
UM-Rolla Engineering Education Center

The UM-Rolla Engineering Education Center, housed on the University of Missouri-St. Louis campus, is an engineering graduate program administered by UM-Rolla for nontraditional students in the St. Louis area. The program is conducted in the evening, making it suitable for students who are employed full time. Graduate work leading to the Master of Science degree is available in aerospace, civil, computer, electrical manufacturing and mechanical engineering, engineering management engineering mechanics, and information science and technology.

The center provides information to St. Louis area residents about UMR programs in Rolla. Advisers can assist area pre-engineering students with transfer to the Rolla campus and with entry into the Cooperative Training Program that exists between UMR and numerous U.S. industries. This co-op program allows engineering students to gain valuable industrial experience during their school years and to be partially or totally self-supporting.

The center also assists St. Louis area companies by offering noncredit short courses, in-house training courses and engineering consultation services in the technical areas of competence of UMR faculty. The center may be contacted at (314) 516-5431 or refer to the web site containing comprehensive information about these programs: www.umr.edu/~umreee.
Other Programs
Programs at Other Universities
Study Abroad

Programs at other Universities

Reciprocal Programs
Unless otherwise stated, students interested in one of the following programs should contact the admissions office at the school where the program is offered.

Nebraska
The University of Nebraska in Lincoln offers programs for a limited number of Missouri residents in architecture, community and regional planning, construction management, and actuarial science where students may pursue bachelor's degrees.

Illinois
A cooperative agreement exists between Southern Illinois University-Edwardsville and UM-St. Louis which permits students of one institution to take courses at the other institution as a regular part of their academic program. For further information consult the registrar's office or the dean's office.

Kansas
The following programs are offered to Missouri residents at various Kansas universities:

- Humanities University of Kansas, Lawrence, with an M.A. in Oriental languages and literature, and a B.A. and M.A. in Slavic languages and literature (not Russian). A Ph.D. in Slavic languages and literature is also offered.

- Grain milling and technology Kansas State University, Manhattan, with a B.S., M.S., or Ph.D. in bakery science and management, feed science and management, or milling science and management.

- Horticulture Kansas State University, Manhattan, with a B.S. in horticulture therapy.

Joint Programs in Law and Dentistry
The University of Missouri-St. Louis and the University of Missouri-Kansas City provide joint programs in law and dentistry for academically able students who are committed to public service. These special programs are designed to serve students seeking a career in public-service law or students who wish to practice dentistry in medically underserved communities.

UM-Kansas City will hold a reserved seat in its School of Law or in the School of Dentistry for qualified UM-St. Louis entering freshmen and make it available to them after they complete the required undergraduate studies at UM-St. Louis.

Study Abroad Programs
The University of Missouri-St. Louis is committed to broadening students' understanding of different cultures and preparing them for the global community in which we live. One of the most successful ways of achieving this "global mindset" is to study at an overseas location for a year, semester or summer. Spending time abroad as a student is an enriching experience both academically and personally, providing students with the opportunity to study within a different culture.

The Center for International Studies provides UM-St. Louis students with opportunities to study at over 75 different universities in more than 30 countries around the globe. Through individual advising at the center's Study Abroad Office, students can find the program best suited to their personal, academic, and career goals. Internship possibilities are also available for qualified students.

Fees and Financial Aid
The cost of the program depends on the services provided and the country and city of study. For most programs, participants continue to pay UM-St. Louis fees plus airfare, room and board, and spending money. Few programs require an additional fee. Students are usually housed in dormitories or are assisted in finding apartments. In most cases, students are able to apply financial aid to a study abroad program. Study abroad scholarships are available for qualified applicants through the Center for International Studies.

Application
Generally, applications are due at the end of January for fall, mid-February for summer, and the end of September for winter semester. Some programs require application two semesters prior to participation. Students should plan to spend at least one or two months researching a program before applying.

Participant selection is based on academic achievement, faculty recommendations, approval of the proposed course of study via the department/divisional advisory process, and familiarity with or willingness to learn the foreign language of instruction. Most programs are designed for undergraduate students in their junior or senior years of study; however, a limited number of programs for freshmen, sophomores, and graduate students are available.

For further information contact the Study Abroad Office, Center for International Studies, 304 SSB, 516-6497.
Study Abroad Programs and Exchange Partners

Austria
Karl-Franzens-University Graz

Belgium
University of Antwerp

Canada
Carleton University
Dalhousie University
Ecole Polytechnique
McGill University
McMaster University
Saint Mary's University
Technical University of Nova Scotia
Université de Montreal
Université de Sherbrooke
Université du Quebec à Montréal
Université Laval
University of Calgary
University of Manitoba
University of New Brunswick
University of Ottawa
University of Waterloo
University of Western Ontario
York University

China
Nanjing University

Czech Republic
Masaryk University

Denmark
Aarhus University

England
University of East Anglia
University of Lancaster
Missouri London Program
Business Internship in London Program
Journalism Internship in London Program

Finland
University of Helsinki
University of Oulu
Seindjoki Polytechnic

France
Université Jean Moulin, Lyon(3)
Ecole Superieure de Commerce de Saint Etienne
University of Sciences and Technologies de Lille
Université Louis Pasteur, Strasbourg (1)
Université de Marc Bloch, Strasbourg (2)
Université Robert Schuman, Strasbourg (3)
Université Catholique de l'Ouest, Angers
Ecole Superieure des Sciences Commerciales d'Angers

Germany
University of Stuttgart
Ruhr University Bochum
University of Leipzig
Fachhochschule Jena

Other Programs
Programs at Other Universities

Study Abroad

Hochschule Bremen
University of Bonn

Ghana
University of Ghana

Greece
Aristotle University of Thessaloniki

Hungary
Kossuth Lajos University

Iceland
University of Iceland

Ireland
National University of Ireland, Cork
National University of Ireland, Galway

Italy
University of Bologna
University of Parma

Japan
Oberin University
Semester in Nakajo Program
Toyo University

Lithuania
Vilnius University

Malta
University of Malta

Mexico
Centro de Enseñanza Técnica y Superior
Centro de Investigacion y Docencia Economicas (CIDE)
El Colegio de Jalisco
Universidad de Guadalajara
ITESM-Guaymas Campus
Universidad Autonoma de Baja California
Universidad Nacional Autonoma de Mexico
Universidad de San Luis Potosi
Instituto del Estudios Superiores de Tamaulipas
Instituto Tecnologico Autonome de Mexico (ITAM)
Instituto Tecn. y de Est. Sup. de Monterrey (ITESM)
Universidad Autonoma de Guadalajara
Universidad Autonoma de Queretaro
Universidad de las Americas Puebla
Universidad Iberoamericana
Universidad La Saile
University of Guanajuato
Universidad Autonoma de Nuevo Leon

The Netherlands
Hogeschool Holland Business School
Hogeschool voor de Kunsten
University of Utrecht

Northern Ireland
University of Ulster, Magee College

Norway
University of Bergen
Other Programs
Programs at Other Universities
Study Abroad

Portugal
University of Coimbra

Scotland
Heriot-Watt University

Slovenia
University of Ljubljana

South Africa
University of the Western Cape

Spain
Universidad Autónoma de Madrid
Universidad Complutense de Madrid
Universidad Santiago de Compostela

Sweden
Lund University

Switzerland
University of Basel

Taiwan
Yuan-Ze University
National Taiwan Normal University
ROTC

Students interested in Reserve Officer Training Corps programs may enroll in either the Army ROTC program at UM-St. Louis or the Air Force ROTC program sponsored at UM-St. Louis through Saint Louis University. These programs provide undergraduate and graduate students with the opportunity to combine academic study with a military officer training program.

For further information concerning the Army ROTC program, contact the Military Science Department at Washington University, telephone 935-5537 or check out our Web site at http://userfs.cec.wustl.edu/~rotc. For information on the Air Force ROTC program, contact the Aerospace Science Department at Saint Louis University, telephone 977-8227

Army ROTC

The purpose of the Military Science Department is to develop young men and women into junior commissioned officers for positions of responsibility in the Army Reserve, Army National Guard, or Active Army.

Benefits

Army ROTC offers UM-St. Louis students:

1) A challenging, important, well-paid job at graduation in one of the many professional fields that the modern Army has to offer. Army officers serve in such fields as intelligence, military police, communications, engineering, transportation management, finance, combat arms, hospital administration, nursing, and research and development. Starting salary with allowances of an active duty second lieutenant is approximately $27,000. Within four years he/she should be promoted to captain with a salary and allowances of nearly $48,000. Reserve officers attend one weekend per month and an annual two-week training camp.

2) College financing. All advance course and Army ROTC scholarship students receive $200/month stipend. Only scholarship students receive $450 for books and supplies. Also, advance course students may join the Reserves as an office trainee and receive pay while in college.

3) Full-time enrolled students may compete for the Army ROTC scholarship. The scholarship pays for tuition, fees, and books.

4) Option of two careers. Upon graduation and commissioning as officers in the U.S. Army, students may fulfill their obligation by serving on active duty or reserve duty. Reserve officers spend one weekend a month being a soldier. Officers who serve on active duty receive 30 days paid vacation every year, free medical and dental care, travel, and the opportunity to pursue advanced degrees with educational assistance from the Army on a fully funded or partially funded basis.

The Program

College students who complete the ROTC program earn commissions as second lieutenants in the U.S. Army. The ROTC program may be completed in several different ways as outlined below.

1) Four-Year Program. The military science program is traditionally offered as a four-year program. It is best to start as a freshman, but special arrangements can be made for those who start as sophomores. The first two years of military science are voluntary without service obligation, and are designed to give students a perspective on their leadership ability and what the Army can offer them. The student who decides to continue in ROTC and pursue a commission signs an agreement with the Department of the Army to accept a commission upon completion of the last two years of military science. In return the Army agrees to provide a subsistence allowance (up to $4,000) and to provide all necessary uniforms and military science books.

2) Two-Year Program. The two-year program is designed to provide greater flexibility in meeting the needs of students desiring commissions in the U.S. Army. UM-St. Louis students who did not participate in the four-year program and junior college transfer students are eligible for enrollment. Basic prerequisites for entering the two-year program are:

A) The students must be in good academic standing (minimum 2.0 GPA) and pass an Army medical examination.

B) The student must have two academic years of study remaining (undergraduate, graduate, or combination). The student will attend a six-week summer camp to catch up with the students in the four-year program. Attendance at the basic camp does not obligate the student in any way and is only intended to give the student a look at Army life and opportunities. The student will be paid approximately $750 for attendance at basic camp.

Veterans

Veterans of any of the armed forces may qualify for advanced placement and should contact the Military Science Department for details.

Scholarships

The Army ROTC currently has scholarships in effect, which pay toward tuition, fees, and books, and provide $200/month for the academic year. These scholarships cover either four, three, or two years. UM-St. Louis freshmen and sophomores should apply in January for the two- and three-year scholarships. Scholarship students may incur a four-year active duty
obligation; however, they may request reserve duty to serve with the Army National Guard or Reserve.

Qualifications
All students who desire to enter the Army Reserve Officer Training Corps must be U.S. citizens, in good physical condition, and have high moral character. Students must be at least 17 years old to enroll and not over 30 when they receive their commission. Additional qualifications to be admitted into the advanced course include an academic average of C or better and passing an Army medical examination.

Academics
UM-St. Louis Army Reserve Officers Training Corps academics consist of two parts:

1) Earning a degree in the student's chosen academic subject.

2) Completing 18 credit hours (four-year program) or 12 credit hours (two-year program) of the military science curriculum. The courses in military science are college-level academic courses which receive full academic credit toward the student's elective degree requirements in the College of Business Administration and the College of Education. The curriculum consists of classroom instruction and a leadership laboratory in which students receive leadership experience.

Leadership Laboratory
Leadership laboratory is required of all students enrolled in military science courses. Classes are two hours every Thursday afternoon from 4 p.m. to 6 p.m., unless otherwise designated. In addition, students attend one field training exercise each semester. Leadership laboratory develops individual military skills and leadership ability through participation in drill and ceremonies, survival training, mountaineering, field-training exercises, and exposure to progressively greater responsibilities within the Cadet Corps organization.

Graduate Study
The Army realizes the importance of a graduate degree for its personnel. There are several programs available to assist ROTC graduates in obtaining an advanced degree. The Army sends selected second lieutenants immediately to graduate school (with full pay and allowances) to pursue advanced degrees in engineering and the physical sciences. Other officers may postpone active duty for two years to continue graduate study. Students who are accepted into medical school may take up to four years to complete their studies. There are numerous opportunities for an officer to complete a master's degree in service and receive financial assistance from the Army.

Special Training
Selected volunteers may attend one of several special schools during the summer: the Airborne Course at Fort Benning, GA; Air Assault School at Fort Campbell, KY; or the Northern Warfare School in Alaska. Successful course completion earns the coveted badge (such as the jump wings or air assault wings) associated with each school. Special cadet troop leadership training is available on a limited basis. Students participating in the program live and work with an active Army unit during part of one summer.

Cadet Activities
Army ROTC students may participate in many extracurricular activities during the year. Social activities include the Army Military Ball, a fall canoe trip down the Meramec River, picnics, and informal parties. Army ROTC students also support various campus and community service activities. Interested students also participate in the Raider Club, Drill Team, Color Guard, and Ranger Challenge Team.
Course Descriptions

Military Science

101 Introduction to ROTC (2)
Make your first new peer group at college one committed to performing well and enjoying the experience. Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. Learn fundamental concepts of leadership in a profession in both classroom and outdoor laboratory environments.

102 Introduction to Leadership (3)
Learn/apply principles of effective leadership. Reinforce self-confidence through participation in physically and mentally challenging exercises with upper division ROTC students. Develop communication skills to improve individual performance and group interaction. Relate organizational ethical values to the effectiveness of a leader.

201 Self/Team Development (3)
Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning of events, coordination of group efforts, advanced first aid, land navigation and basic military tactics. Learn fundamentals of ROTC's Leadership Development Program.

202 Individual/Team Military Tactics (3)
Introduction to individual and team aspects of military tactics in small unit operations. Includes use of radio communications, making safety assessments, movement techniques, planning for team safety/security and methods of pre-execution checks. Practical exercises with upper division ROTC students. Learn techniques for training others as an aspect of continued leadership development.

301 Leading Small Organizations I (3)
Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead again in situations of increasing complexity. Uses small unit defensive tactics and opportunities to plan and conduct training for lower division students both to develop such skills and as vehicles for practicing leading.

302 Leading Small Organizations II (3)
Continues methodology of MS 301. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress. Examine and apply lessons from leadership case studies. Examine importance of ethical decision making in setting a positive climate that enhances team performance.

Other Programs

ROTC

401 Leadership Challenges and Goal Setting (3)
Plan, conduct and evaluate activities of the ROTC cadet organization. Articulate goals, put plans into action to attain them. Assess organizational cohesion and develop strategies to improve it. Develop confidence in skills to lead people to manage resources. Learn/apply various Army policies and programs in this effort.

402 Transition to Lieutenant (3)
Continues the methodology form MS 401. Identify and resolve ethical dilemmas. Refine counseling and motivating techniques. Examine aspects of tradition and law as related to leading as an officer in the Army. Prepare for a future as a successful Army lieutenant. These courses are taught at Saint Louis University, Washington University, or University of Missouri-St. Louis. Students should check the Schedule of Courses each semester for locations.
Air Force ROTC

The objective of the Air Force Reserve Officer Training Corps is to qualify students for appointment as active duty second lieutenants in the United States Air Force. However, any student may enroll in the freshman/sophomore-level aerospace studies courses, and students may also enroll in the junior/senior-level courses with permission of the professor of aerospace studies.

UM-St. Louis offers the two- and four-year AFROTC programs through an agreement with Saint Louis University.

The four-year program is tailored for students with three or more years of undergraduate studies remaining. Students with junior standing or above may apply for entry into the two-year program. Entry into the two-year program is competitive and is based on standardized test scores, academic major, grade-point average, physical examination, personal interview with the professor of aerospace studies, and successful completion of a summer field training session at an Air Force base. Applicants must be full-time students and must remain in good academic standing.

Reserve Officer Training Corps

The AFROTC Program is divided into the general military course (GMC), the freshman/sophomore level curriculum; and the professional officer course (POC), the junior/senior level curriculum. The GMC covers two main themes; the Air Force today and the Air Force way. The courses of the POC emphasize the professional development of the future Air Force officer. The curriculum covers Air Force leadership and management and preparation for active duty. Field trips to Air Force bases supplement classroom instruction and familiarize the cadet with Air Force operations and organization.

To be commissioned, AFROTC students/cadets must:

1) Pass a medical exam at a military medical facility.
2) Obtain a favorable evaluation on an Armed Forces personal history security investigation.
3) Flying applicants must complete commissioning requirements before age 26-1/2, and nonflying applicants must complete commissioning requirements by age 30. However, the age limit for nonflying applicants may be extended to age 35 for outstanding individuals.
4) Be of good character (as determined by a favorable record with law enforcement authorities).
5) Successfully complete all AFROTC course requirements.
6) Complete at least a baccalaureate degree.
Air Force ROTC textbooks are loaned to all AFROTC students without charge. Students in the POC will receive a monthly subsistence allowance of $150 per month for a maximum of 20 months, an Air Force uniform, in excess of $700 for the summer field training course, and a travel allowance to and from the training location.

In addition to the AFROTC courses offered for academic credit, the Aerospace Studies Department sponsors the Arnold Air Society and Angel Flight. Arnold Air Society is a national honorary service organization, and membership is open to anyone interested in bringing to the local community a better understanding of the Air Force mission and its leaders.

AFROTC field training is offered during the summer months at selected bases throughout the United States, usually between a student's sophomore and junior years. Students in the four-year program participate in four weeks of field training. Major areas of study include junior officer training, aircrew/aircraft orientation, career orientation, survival training, base functions and Air Force environment, and physical training. Students applying for entry into the two-year program must successfully complete six weeks of field training prior to enrollment in the professional officer course. The major areas of study included in the six-week field training program are essentially the same as those conducted at four-week field training, plus the academic curriculum of the general military course including leadership laboratory. POC cadets are eligible for a $1,000 per semester federal AFROTC scholarship.

Leadership Laboratory is taken once per week throughout the student's enrollment in AFROTC. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership laboratory involves a study of Air Force customs and courtesies, drill and ceremonies, career opportunities in the Air Force, and the life and work of an Air Force junior officer. It also includes field trips to Air Force installations throughout the United States.

Other training volunteers may attend various special cadet training programs such as light aircraft training, parachute jump training, and advance cadet training. Students participating in the latter work with an Air Force unit during part of the summer.

The Air Force offers four-, three-, and two-year scholarships to qualified students. These scholarships pay tuition, certain fees, and textbook cost. Scholarship recipients receive $150 per month subsistence allowance. For further information on the Air Force ROTC program at UM-St. Louis, call (314) 977-8227, or at Southern Illinois University at Edwardsville (SIUE), call (618) 692-3180.

Aerospace Studies

The Aerospace studies program is divided into two parts: the general military course, the freshman/sophomore level curriculum, and the professional officer course, the
junior/senior level curriculum. The GMC covers two main themes: the Air Force today and the Air Force way. The courses of the POC emphasize the professional development of the future Air Force officer. The curriculum covers Air Force leadership and management and preparation for active duty. Field trips to Air Force bases supplement classroom instructions and familiarize the cadet with Air Force operations and organizations.

Leadership laboratory is taken two hours per week throughout the student's enrollment in the AFROTC. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. The first two years of the leadership laboratory includes a study of Air Force customs and courtesies, drill and ceremonies, issuing military commands, instructing, directing and evaluating the preceding skills, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. The last two years of lab consist of activities classified as advanced leadership experiences. They involve planning and controlling military activities of the cadet corps, preparation and presentation of briefings and other oral and written communications, and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.

AFROTC cadets must also successfully complete supplemental courses to enhance their utility and performance as commissioned officers. These include university courses in English composition and mathematical reasoning. Specific courses are designated by the professor of aerospace studies.

Cadets in the four-year program participate in four weeks of field training. Cadets in the two- or three-year programs (exception for prior AF service) must attend the six-week FT session, which is identical to the four-week program plus 90 hours of GMC curriculum. Field training is offered during the summer months at selected bases throughout the United States, usually between a student's sophomore and junior years. Major areas of study include Air Force orientation, officer training, aircrew/aircraft orientation, survival training, base functions, and physical training.

Students applying for entry into the two- or three-year program must successfully complete six weeks of field training prior to enrollment in the professional officer course. The major areas of study included in the six-week field training program are essentially the same as those conducted at four-week field training, plus the academic curriculum of the general military course including leadership laboratory. No direct academic credit is awarded for field training.

Federal scholarships are available for AFROTC cadets—any academic major may apply. Applications are to be submitted by detachment personnel to Headquarters Reserve Officers Training Corps, Maxwell Air Force Base, AL.

Participation in AFROTC is not required to take aerospace courses.

Lower Division (General Military)

Aerospace studies courses (AS-101 through AS-202) are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses will be computed in the student's overall grade point average, but credit hours for these courses will not be included in the total hours for graduation.
Course Descriptions

AS-101/102 The Air Force Today (2)
A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for AFROTC cadets, and it complements this course by providing students with followership experiences. Classroom activity, two hours per week; Leadership Laboratory two hours per week, each semester.

AS-201/202 The Air Force Way (2)
Survey course designed to facilitate the transition from Air Force ROTC cadet to Air Force ROTC candidate. Featured topics include: Air Force heritage, Air Force leaders, Quality Air Force, an introduction to ethics and values, introduction to leadership, group leadership problems, and continuing application of communication skills. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences discussed in class. Classroom activity, two hours per week; Leadership Laboratory two hours per week, each semester.

Upper Division(Professional Officer) Courses

Aerospace Studies courses AS-301 through AS-402 are advanced courses designed to improve communication and management skills required of Air Force officers. Credit hours of these courses may be included in the hours needed for graduation at the discretion of individual departmental chairpersons.

AS-301/302 Air Force Leadership and Management (3)
The study of leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory leadership laboratory complements this course by providing advanced leadership experiences in officer type activities, giving students the opportunity to apply leadership and management principles of this course. Classroom activity, three hours per week; Leadership Laboratory two hours per week, each semester.

AS-401/402 Preparation For Active Duty (3)
Examines the national security process, regional studies, advanced leadership ethics, Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. An additional Leadership Laboratory complements this course by providing advanced leadership experiences, giving students the opportunity to apply leadership and management principles of this course. Classroom activity, three hours per week; Leadership Laboratory two hours per week, each semester.

Field Training
Field Training provides leadership and officership training in a military environment, which demands conformity to high physical and moral standards. Within this structured environment, cadets are screened for officer potential as measured against field training standards. Motivation and professional development is achieved through various programs such as flight orientation, marksmanship, and survival training. Students in the four-year program participate in four weeks of field training. Field training is offered during the summer months at selected bases throughout the United States, usually between a student’s sophomore and junior years. Major areas of study include: Air Force Orientation, Officer Training, aircrew/aircraft orientation, survival training, base functions and physical training.
Video Instructional Program

The video instructional program offers an alternative for the student who is far from campus, whose physical disability, work schedule, or other responsibilities make it difficult for him/her to attend traditional classes. Video lessons for various courses are available for viewing on cable television stations as well as in UM-St. Louis libraries.

St. Louis Area Cable Stations
Continental Cable, and United Video in St. Louis County; AT&T Cable in the city will air courses over the Higher Education Channel (HEC). (Charter, Continental, United Video & AT&T Cable).

Course Listings
The following courses from the UM-St. Louis curriculum are offered:

Anthropology

019(1019) Archaeology [SS]
This telecourse uses dramatic onsite filming to enable students to explore how archaeologists reconstruct ancient societies and explain how they evolved. Students will understand how archaeology and anthropology interact, with emphasis on how people have behaved in the past.

025(1025) World Cultures [CD, SS, V]
This telecourse is an ethnographic survey of the major culture areas of the world. It is an introductory cultural anthropology course that studies the structure and process of culture.

124(2124) Cultures of Africa [CD]
This telecourse offers a basic ethnographic survey of African cultures, with attention to social groupings, tribalism, religion, language, social change, the ecological relationship between humans and nature.

350(4350) Special Studies
This telecourse offers a glimpse into the science of anthropology through a variety of approaches, theories, controversies, and solutions encountered in the field. Students will gain insight into the practices of foreign cultures and the beliefs of their own culture in addition to the importance of diversity of human behavior.

Biology

001(1012) General Biology (For Non-Science Majors) [MS]
This telecourse provides a firm foundation in the fundamental principles of biology.

120(1202) Environmental Biology (3) [MS, V, MI]

Other Programs
Video Instructional Program

This telecourse provides a survey of the current outlook for the global environment, describing threats that different natural systems face and the ties that bind human society to the environment. It also provides an examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution and conservation.

Communication

070(1070) Introduction to Cinema
This telecourse examines the history, rhetoric, and aesthetics of film. The content is designed to bring Hollywood filmmaking into clear focus as an art form, as an economic force, and as a system of representation and communication. Film theory and criticism will be studied, as well as major genres, authors, and artists. Introduction to Cinema explores how Hollywood films work technically, artistically, and culturally. The course also probes the deeper meaning of American movies--the hidden messages of genres, the social and psychological effects of Hollywood film style, and the mutual influence of society and popular culture on filmmaking.

232(2232) Effective Communication in the Organization: Tool for Leadership (3)
Prerequisites: Junior standing or consent of instructor. Telecourse designed to equip students with communication skills applicable to the organizational context. The course will present effective strategies for the articulation of ideas, with particular emphasis on the development of leadership skills.

Education

308 Foundations of Adult Basic Education (3)
This telecourse discusses the various characteristics of the adult learner, including needs, interests, physiological factors, interpersonal relations, and communications. The video demonstrations present teaching practices in adult basic education. This course focuses on the need of corporate and industry trainers as well as ABE and GED teachers.

You will work with topics in teaching basic reading: word recognition, comprehension, writing for the student=s needs, basic and intermediate mathematical skills, selection and use of materials, learning contracts, learning styles, and other methods to individualize instruction, as well as student recruitment and retention and corporate classroom management. This is an important class offered at a time when there are more adult students than teachers.

History

031(1031) Topics in European Civilization: Emergence of Western Europe to 1715 [SS]
This telecourse offers lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

032(1032) Topics in European Civilization: 1715 to the Present [SS]
This telecourse offers lectures and discussions on the development of Western European society and tradition from 1715 to the present.

History 31(1031) or History 32(1032) may be taken separately.

150(2300) The People's Century, Part I
This telecourse provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their firsthand experiences.

350 The People's Century, Part I, Special Studies
This telecourse provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their experiences first hand as well as special readings, reports and/or research.

Psychology

003(1003) General Psychology [SS]
This telecourse is an introductory college level course that covers the fundamental principles and major concepts of psychology. The content is designed to provide a broad introductory survey of the general principles of human behavior.

245(2245) Abnormal Psychology
Prerequisite: Psych 03(1003), General Psychology. This telecourse introduces the major theoretical models for explaining and treating disorders - psychodynamic, behavioral, cognitive and biological. Ten of the 13 programs feature specific disorders, including anxiety disorders, personality disorders, the schizophrenias, sexual disorders, substance abuse, and the disorders of childhood. The first program concerns assessment, while the last two provide information on treatment and prevention. This approach serves the introductory abnormal psychology student, while allowing individual faculty latitude to underscore the approach to which they subscribe.

268(1268) Human Growth and Behavior [SS]
Prerequisites: Psych 3(1003). This telecourse uses special readings, reports, and/or field research as well as video and audio courses to explore the stages of life as an introduction to developmental psychology.

280(4280) The Psychology of Death and Dying
(Same as Gerontology 280(4280). Prerequisite: Psych 3(1003). This telecourse will address the psychological aspects of death and dying for both adults and children. The psychological reactions of terminally ill patients and their families will also be examined, and therapeutic interventions will be discussed.

Social Work

280(4200) Human Behavior in the Social Environment (3)
Prerequisites: Biology 1(1012) and Sociology 160(2160) or Psych 160(2160) or permission of instructor. This telecourse will focus on the normative stages in the life span, specifically how human development is affected by the physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social

312(4601) Women's Social Issues
Prerequisites: Social Work 280(4200) or consent of the instructor. This telecourse is designed to help students identify gender stereotypes and barriers and how they impact on women's lives. This course will help students become more sensitive to the social and welfare concerns of women. The course also explores how gender intersects with other social systems, such as age, class, disability, ethnicity, race, religion, and sexual orientation. Emphasis will be placed on integrating a knowledge base of women's needs with professional social work practice.

Sociology

010(1010) Introduction to Sociology [V, SS]
This telecourse is an introductory college level course designed to give students an in-depth look at sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

Philosophy

90(1090) Philosophy and Other Disciplines [H, V]
Prerequisites: Video course offering. General introduction to philosophy examines its connections to works of art and related areas. Course does not satisfy any requirements for philosophy major or minor

91(1091) Significant Figures in Philosophy [H, V]
Video course introduces philosophy through a survey of the ideas of some of the important figures in the history of the discipline. Course cannot be used to satisfy any requirements for philosophy major or minor.
Appendix
Code of Student Conduct

200.010 Standard of Conduct Amended March 20, 1981; August 3, 1990; May 19, 1994
A student enrolling in the university assumes an obligation to behave in a manner compatible with the university's function as an educational institution.

A. JURISDICTION OF THE UNIVERSITY OF MISSOURI generally shall be limited to conduct which occurs on the University of Missouri premises or at university-sponsored or university-supervised functions. However, nothing restrains the administration of the University of Missouri from taking appropriate action, including, but not limited to, the imposition of sanctions under Section 200.020(C), against students for conduct on or off university premises in order to protect the physical safety of students, faculty, staff and visitors.

B. CONDUCT for which students are subject to sanctions falls into the following categories:

1. Academic dishonesty, such as cheating, plagiarism or sabotage. The Board of Curators recognizes that academic honesty is essential for the intellectual life of the university. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards. In all cases of academic dishonesty, the instructor shall make an academic judgment about the student's grade on that work and in that course. The instructor shall report the alleged academic dishonesty to the Primary Administrative Officer.
   a. The term cheating includes but is not limited to: (i) use of any unauthorized assistance in taking quizzes, tests, or examinations; (ii) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (iii) acquisition or possession without permission of tests, or other academic material belonging to a member of the university faculty or staff; or (iv) knowingly providing any unauthorized assistance to another student on quizzes, tests, or examinations.
   b. The term plagiarism includes, but is not limited to: (i) use by paraphrase or direct quotation of the published or unpublished work of another person without fully and properly crediting the author with footnotes, citations or bibliographical reference; (ii) unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials; or (iii) unacknowledged use of original work/material that has been produced through collaboration with others without release in writing from collaborators.
   c. The term sabotage includes, but is not limited to, the unauthorized interference with, modification of, or destruction of the work or intellectual property of another member of the university community.

2. Forgery, alteration, or misuse of university documents, records or identification, or knowingly furnishing false information to the university.

3. Obstruction or disruption of teaching, research, administration, conduct proceedings, or other university activities, including its public service functions on or off campus.

4. Physical abuse or other conduct which threatens or endangers the health or safety of any person.

5. Attempted or actual theft of, damage to, or possession without permission of property of the university or of a member of the university community or of a campus visitor.

6. Unauthorized possession, duplication or use of keys to any university facilities or unauthorized entry to or use of university facilities.

7. Violation of university policies, rules or regulations or of campus regulations including, but not limited to, those governing residence in university-provided housing, or the use of university facilities, or the time, place and manner of public expression.

8. Manufacture, use, possession, sale or distribution of alcoholic beverages or any controlled substance without proper prescription or required license or as expressly permitted by law or university regulations.

9. Disruptive or disorderly conduct or lewd, indecent, or obscene conduct or expression.

10. Failure to comply with directions of university officials acting in the performance of their duties.

11. Illegal or unauthorized possession of firearms, explosives, other weapons, or dangerous chemicals.

12. Actual or attempted theft or other abuse of computer time, including but not limited to: a. Unauthorized entry into a file to use, read, or change the contents, or for any other purpose. b. Unauthorized transfer of a file. c. Unauthorized use of another individual's identification and password. d. Use of computing facilities to interfere with the work of another student, faculty member or university official. e. Use of computing facilities to interfere with normal operation of the university computing system. f. Knowingly causing a computer virus to become installed in a computer system or file.

Student Disciplinary Matters

Rules of Procedures in Student Disciplinary Matters Adopted November 8, 1968; Amended March 20, 1981; December 8, 1989; and May 18, 1994

200.020 RULES OF PROCEDURES IN STUDENT CONDUCT MATTERS

A. PREAMBLE. The following rules of procedure in student conduct matters are hereby adopted in order to insure insofar as possible and practicable (a) that the requirements of procedural due process in student conduct proceedings will be fulfilled by the university, (b) that the immediate effectiveness of Article V of the Bylaws of the Board of Curators relating to student conduct and sanctions may be secured for all students in the University of Missouri, and 8 that procedures shall be definite and determinable within the University of Missouri.

B. DEFINITIONS. As used in these rules, the following definitions shall apply:

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I. Primary Administrative Officers. As used in these procedures, a Primary Administrative Officer is charged with the responsibility for the administration of these student conduct procedures and refers to the person or persons on each campus designated.

2. Student Panel. A panel of students appointed by the Chancellor, from which shall be selected by the Chair, upon the request of a student charged before the Student Conduct Committee, not more than three (3) students to serve with the Student Conduct Committee.

3. Student. A person having once been admitted to the university who has not completed a course of study and who intends to or does continue a course of study in or through one of the campuses of the university. For the purpose of these rules, student status continues whether or not the university’s academic programs are in session.

4. Student Conduct Committee. As used in these procedures, a Student Conduct Committee, hereinafter referred to as the Committee, is that body on each campus which is authorized to conduct hearings and to make dispositions under these procedures or a Hearing Panel of such body as herein defined.

C. SANCTIONS.

1. The following sanctions may be imposed upon any student found to have violated the Student Conduct Code; more than one (1) of the sanctions may be imposed for any single violation:
   a. Warning. A notice in writing to the student that the student is violating or has violated institutional regulations.
   b. Probation. A written reprimand for violation of specified regulations. Probation is for a designated period of time and includes the probability of more severe sanctions if the student is found to be violating any institutional regulation(s) during the probationary period.
   c. Loss of Privileges. Denial of specified privileges for a designated period of time.
   d. Restitution. Compensation for loss, damage or injury to the university or university property. This may take the form of appropriate service and/or monetary or material replacement.
   e. Discretionary Sanctions. Work assignments, service to the university or other related discretionary assignments.
   f. Residence Hall Suspension. Separation of the student from the residence halls for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
   g. Residence Hall Expulsion. Permanent separation of the student from the residence halls.
   h. University Dismissal. An involuntary separation of the student from the institution for misconduct apart from academic requirements. It does not imply or state a minimum separation time.
   i. University Suspension. Separation of the student from the university for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
   j. University Expulsion. Permanent separation of the student from the university.

2. Temporary Suspension. The Chancellor or designee may at any time temporarily suspend or deny readmission to a student from the university pending formal procedures when the Chancellor or designee finds and believes from available information that the presence of a student on campus would seriously disrupt the university or constitute a danger to the health, safety or welfare of members of the university community. The appropriate procedure to determine the future status of the student will be initiated within seven (7) calendar days.

D. RECORDS RETENTION. Student conduct records shall be maintained for five (5) years after university action is completed.

E. POLICY AND PROCEDURES.

1. Primary Administrative Officers. The Chief Student Affairs Administrator on each campus or designee is the primary officer except in cases of academic dishonesty, where the Chief Academic Administrator responsible for administering the Student Conduct Code or designee is the primary administrative officer.

2. Preliminary Procedures. The Primary Administrative Officer shall investigate any reported student misconduct before initiating formal conduct procedures and give the student the opportunity to present a personal version of the incident or occurrence. The Primary Administrative Officer may discuss with any student such alleged misconduct and the student shall attend such consultation as requested by the Primary Administrative Officer. The Primary Administrative Officer, in making an investigation and disposition, may utilize student courts and boards and/or divisional deans to make recommendations.

3. Informal Dispositions. The Primary Administrative Officer shall have the authority to impose appropriate sanctions and shall fix a reasonable time within which the student shall accept or reject a proposed informal disposition. A failure of the student either to accept or reject within the time fixed shall be deemed to be an acceptance and, in such event, the proposed disposition shall become final upon expiration of such time. If the student rejects informal disposition it must be in writing and shall be forwarded to the Committee. The Primary Administrative Officer may refer cases to the Committee without first offering informal disposition.

   a. Student Conduct Committee:
      1) The Committee shall be appointed by the Chancellor and shall have the authority to impose appropriate sanctions upon any student or students appearing before it.
      2) The Committee, when appropriate or convenient, may be divided by the Chair of the Committee into Hearing Panels, each panel to be composed of at least five (5) Committee members, which may include a maximum of two (2) students, present at the hearing, including a designated chair. A Hearing Panel has the authority of the whole Committee in those cases assigned to it. The Chair of the Committee or of a Hearing Panel shall count as one (1) member of the Committee or Hearing Panel and have the same rights as other members.
      3) Each Chancellor shall appoint a panel of students, to be known as the Student Panel. Upon written request of a student charged before the Committee, made at least seventy-two (72) hours prior to the hearing, the Chair of the Committee or Hearing Panel shall appoint from the Student Panel not more than three (3) students to sit with the Committee or two (2) students to sit with the Hearing Panel (as stated in 4.a.(2)) for that particular case. When students from the Student Panel serve at the request of a student charged, they shall have the same rights as other members of the Committee or Hearing Panel.
b. General Statement of Procedures. A student charged with a breach of the Student Conduct Code is entitled to a written notice and a formal hearing unless the matter is disposed of under the rules for informal disposition. Student conduct proceedings are not to be construed as judicial trials and need not wait for legal action before proceeding; but care shall be taken to comply as fully as possible with the spirit and intent of the procedural safeguards set forth herein. The Office of the General Counsel shall be legal adviser to the Committee and the Primary Administrative Officer.

e. Notice. The Primary Administrative Officer shall initiate student conduct proceedings by arranging with the Chair to call a meeting of the Committee and by giving written notice by certified mail or personal delivery to the student charged with misconduct. The notice shall set forth the date, time and place of the alleged violation and the date, time and place of the hearing before the Committee. Notice by certified mail may be addressed to the last address currently on record with the university. Failure by the student to have a current correct local address on record with the university shall not be construed to invalidate such notice. The notice shall be given at least seven (7) consecutive days prior to the hearing, unless a shorter time be fixed by the Chair for good cause. Any request for continuance shall be made in writing to the Chair, who shall have the authority to continue the hearing if the request is timely and made for good cause. The Chair shall notify the Primary Administrative Officer and the student of the new date for the hearing. If the student fails to appear at the scheduled time, the Committee may hear and determine the matter.

5. Right to Petition for Review (other than university expulsion, university dismissal or university suspension).

a. In all cases where the sanction imposed by the Committee is other than university expulsion, university dismissal, or university suspension, the Primary Administrative Officer or the Student may petition the Chancellor or designee in writing for a review of the decision within five (5) calendar days after written notification. A copy of the Petition for Review must also be served upon the nonappealing party within such time. The Petition for Review shall state the grounds or reasons for review, and the nonappealing party may answer the petition within five (5) calendar days.

b. The Chancellor or designee may grant or refuse the right of review. In all cases where the Petition for Review is refused, the action of the Committee shall be final unless the matter is remanded for further proceedings.

6. Right of Appeal (university expulsion, university dismissal or university suspension only).

a. When a student is expelled, dismissed or suspended from the university by the Committee, the Primary Administrative Officer or the student may appeal such decision to the Chancellor or designee by filing written notice of appeal with the Chancellor within ten (10) calendar days after notification of the decision of the Committee. A copy of the Notice of Appeal will contemporaneously be given by the student to the Primary Administrative Officer or by the Primary Administrative Officer to the student. The appealing party may file a written memorandum for consideration by the Chancellor with the Notice of Appeal, and the Chancellor may request a reply to such memorandum by the appropriate party.

b. The Chancellor or designee shall review the record of the case and the appeal documents and may affirm, reverse or remand the case for further proceedings and shall notify each party in writing of the decision on the appeal. The action of the Chancellor shall be final unless it is to remand the matter for further proceedings.

7. Status During Appeal. In cases of suspension, dismissal or expulsion where a Notice of Appeal is filed within the required time, a student may petition the Chancellor in writing for permission to attend classes pending final determination of appeal. The Chancellor may permit a student to continue in school under such conditions as may be designated pending completion of appellate procedures, provided such continuance will not seriously disrupt the university or constitute a danger to the health, safety or welfare of members of the university community. In such event, however, any final sanctions imposed shall be effective from the date of the action of the Committee.

8. Student Honor System. Forums under the student honor systems established for investigating facts, holding hearings, and recommending and imposing sanctions are authorized when the student honor code or other regulations containing well defined jurisdictional statements and satisfying the requirements of Article V of the Bylaws of the Board of Curators have been reduced to writing and have been approved by the Chancellor and the Board of Curators and notice thereof in writing has been furnished to students subject thereto. Procedures shall satisfy the requirements of the Board of Curators Bylaws, Article V, and shall contain procedures herein before stated insofar as appropriate and adaptable to the particular situation and shall be approved by the Chancellor and the General Counsel. Students subject to student honor systems shall have the rights of appeal as set forth in Section 200.020 E.6 and 7.)

F. HEARING PROCEDURES.

1. Conduct of Hearing. The Chair shall preside at the hearing, call the hearing to order, call the roll of the Committee in attendance, ascertain the presence or absence of the student charged with misconduct, read the notice of hearing and charges and verify the receipt of notices of charges by the student, report any continuances requested or granted, establish the presence of any adviser or counselor of the student, and call to the attention of the student charged and the adviser any special or extraordinary procedures to be employed during the hearing and permit the student to make suggestions regarding or objections to any procedures for the Conduct Committee to consider.

a. Opening Statements

1) The Primary Administrative Officer shall make opening remarks outlining the general nature of the case and testify to any facts the investigation has revealed.

2) The student may make a statement to the Committee about the charge at this time or at the conclusion of the university's presentation.

c. Student Evidence.

1) The student shall have the opportunity to make a statement to the Committee about the charge.

2) The student may present evidence through witnesses or in the form of written memoranda.

3) The Committee may question the student or witnesses at any time. The Primary Administrative Officer may question the student or witnesses.
Appendix

Appendix

4. Official Report of Findings and Determinations. The Committee shall promptly consider the case on the merits and make its findings and determination and transmit them to the Primary Administrative Officer and the student charged forthwith.

5. Other Procedural Questions. Procedural questions which arise during the hearing not covered by these general rules shall be determined by the Chair, whose ruling shall be final unless the Chair shall present the question to the Committee at the request of a member of the Committee, in which event the ruling of the committee by majority vote shall be final.

6. General Rules of Decorum. The following general rules of decorum shall be adhered to:

a. All requests to address the Committee shall be addressed to the Chair.

b. The Chair will rule on all requests and points of order and may consult with Committee's legal adviser prior to any ruling. The Chair's ruling shall be final and all participants shall abide thereby, unless the Chair shall present the question to the Committee at the request of a member of the Committee, in which event the ruling of the Committee by majority vote shall be final.

c. Rules of common courtesy and decency shall be observed at all times.

d. An adviser or counselor may be permitted to address the Committee at the discretion of the Committee. An adviser or counselor may request clarification of a procedural matter or object on the basis of a ruling at any time by addressing the Chair after recognition.

7. Record of Hearing. A taped or stenographic record of the hearing shall be maintained. The notice, exhibits, hearing record and the findings and determination of the Committee shall become the "Record of the Case" and shall be filed in the Office of the Primary Administrative Officer and for the purpose of review or appeal be accessible at reasonable times and places to both the university and the student.

8. Sexual Assault. In cases of alleged sexual assault:

a. The accuser and the accused are entitled to the same opportunities to have others present during a campus disciplinary proceeding;

b. The accuser and the accused shall be informed of the outcome of any campus disciplinary proceeding brought alleging a sexual assault.

Financial Aid Appeals

The University of Missouri-St. Louis has an established financial aid appeals procedure. An aid applicant can raise questions or appeal the offer, or lack of an offer, of financial aid if not satisfied. The general provisions for appeals procedures are as follows:

1) An aid applicant who is not satisfied with the fact that no aid was offered, or was not pleased with the type and/or amount of aid that was offered, may make a written appeal to the Student Financial Aid Appeals Committee reconsideration of the aid request and/or ask for a personal hearing.

2) If on review of all the facts of the case, including any new information which the applicant may provide, the Committee can a) approve an exception to university policy; b) deny the request; c) approve a modified version of the request.

3) If the Appeals Committee cannot provide a satisfactory solution, he/she may refer the written appeal with all pertinent information to the Director of Financial Aid. Where academic progress is an issue, the student may ask an academic adviser or counsel to write or speak in the student's behalf. If a satisfactory solution is worked out, the case is closed.
Grade Appeal

On each campus of the University of Missouri it is the Chancellor who is ultimately responsible to the President and the Board of Curators for all campus programs, policies, and activities. On the University of Missouri-St. Louis campus the Chancellor has delegated responsibility for overseeing the grade appeal process to the Vice Chancellor for Academic Affairs. The Vice Chancellor is therefore responsible for assuring that grade appeals are handled in a fair and timely manner. More specifically, that officer is responsible for seeing that the procedures outlined below are appropriately followed.

Informal Procedures

At any time after the awarding of a grade, for a course or an assignment in a course, a student may discuss the grade with her or his instructor and request that the instructor review the grade. If the instructor does review the grade he or she is, of course, free to change the grade or not as is appropriate.

Formal Procedures

The following procedures apply if the above informal procedure does not resolve a dispute concerning a grade to the student’s satisfaction and if the process is initiated within thirty working days of the start of the first regular semester (fall or winter) following the semester for which the grade was given, or thirty days after the assignment of the grade (whichever is later).

1. If the student has not already done so, he or she discusses the contended grade fully with the course instructor. The student should prepare for this meeting by taking all relevant written work (test, reports, etc.) with him/her. If the issue is not resolved, and the student wishes to pursue the appeal, he or she should consult the administrative officer of the department or discipline housing the course in question. (This officer will normally be someone below the level of the Dean.) The administrative officer will discuss the appeal with the course instructor, and will inform the student of the result of this discussion. (That result may be the instructor’s agreement to change the grade, her or his refusal to change the grade, or her or his agreement to discuss the case further with the student.) The administrative officer may require that the student put the appeal in written form before the administrative officer discusses it with the instructor.

2. If the matter remains unresolved, the student may, within 10 working days of being notified of the result of the discussion between the administrative officer and the instructor, or within 10 working days of her or his last discussion with the instructor, submit a detailed written statement of the complaint to the administrative officer. The administrative officer will refer it to a faculty committee composed of at least three faculty members in the department or unit offering the course or if such are not available, in closely allied fields. This committee will investigate the matter, meeting, as it may deem necessary, with the student, the instructor, and possibly others. Following its inquiries and deliberations, but prior to making its final recommendations, the faculty committee will submit a copy of its findings to the course instructor. If the course instructor elects to comment on the findings to the committee, this must be done in writing within 7 working days. After further consideration, but within 30 working days after receiving the student’s statement, the faculty committee will submit its findings with its recommendations and reasons for those recommendations directly to the course instructor, with a copy to the administrative officer.

3. If the faculty committee recommends that the grade be changed, the administrative officer will ask the instructor to implement the recommendation. If the instructor declines, the administrative officer will change the grade, notifying the instructor and the student of this action. Only the administrative officer, upon the written recommendation the faculty committee, will effect a change in grade over the objection of the instructor who assigned the original grade.

4. If the faculty committee recommends that the grade not be changed, the administrative officer will notify the student of this action. The student may then appeal to the dean of the school or college within which the course in question is housed, who will determine whether the above procedures have been properly observed. If the Dean determines that the procedures have not been appropriately followed, and that their not being followed may have substantively affected the outcome, the case will be returned to the faculty unit for review by the same, or, if the Dean so determines, by a different committee.

5. If the Dean denies the procedural appeal the student may ask the Vice Chancellor for Academic Affairs, acting as the Chancellor's designee, to conduct a procedural review. The Vice Chancellor is not obligated to conduct such a review and will normally do so only where there is compelling evidence of procedural irregularities. If the Vice Chancellor finds the procedures have not been appropriately followed, and that their not being followed may have substantively affected the outcome, the case will be returned to a lower level for rereview. As the Vice Chancellor is acting as the designee of the Chancellor, there is no appeal beyond this level.

Student Organization Policy

Policy on Student Organizations

The University recognizes that the acquisition of knowledge is not confined to the formality of the classroom and that much can be gained through the activities of student organizations. To assure maximum freedom for students and to assure that organizational activities are orderly, responsible, and appropriate to the mission of the university, certain principles and procedures are established through which organizations gain university recognition.

1 Under current campus policy, transcript notation of >DL= automatically becomes an F after one regular semester. These changes, which the Registrar is mandated to make, are not considered grade changes and are consistent with this Grade Appeal Policy. Students may appeal these changes provided the appeal is initiated within 30 working days of the notification of the change.
I Procedures for Recognition

A. To obtain recognition or to register, an organization shall submit to the Vice Chancellor for Student Affairs, through the Office of Student Life, a recognition or registration form which shall include:
1) The name of the organization.
2) A statement of the general purpose of the organization and the means for accomplishing it. The statement should demonstrate that the organization's purpose is to broaden the scope of general learning, extend knowledge of specialized areas, or to serve the professional, cultural, social or recreational interests of the university community, consistent with the educational goals of the university. The statement must not conflict with policies governing recognized organizations as listed below.
3) The names of at least three officers and ten responsible representatives, including student numbers, addresses and telephone numbers; these persons must be students registered at the university of Missouri-St. Louis.
4) A statement of any affiliation with any other organization not registered with the university, and a copy of the organization's constitution.
5) Organizations seeking recognition must include a copy of their constitution and/or by-laws, the name of a UM-St. Louis faculty or staff member (75 FTE) who agrees to serve as an advisor, and the name of a student member of the organization who will serve as the organization's representative on the Student Government Association.
6) Upon submission of the recognition or registration form, the organization shall be granted temporary privileges until the request for recognition is acted upon by the Senate Student Affairs Committee or the request to register is approved by the Director of Student Life.

B. To maintain recognition or registration, an organization must update their recognition form or re-register with the Office of Student Activities no later than two weeks following the beginning of the fall semester.

II Privileges of Recognized Organizations

1) Use of campus facilities and services for organizational activities as provided in the university regulations.
2) Use of the university name in connection with publicity, but only for identification purposes, and in no way to imply support of the university for any position of the organization.
3) Participation in university-sponsored events.
4) Application for supplemental financial assistance.
5) Participation as a voting member of Student Government Association. Organizations which register may not apply for supplemental assistance and may not be voting members of Student Government Association.

III Policies Governing Recognized or Registered Organizations

1) Organizations shall comply with the Rules and Regulations of the University of Missouri and the St. Louis campus.
2) Organizations' membership policy shall not discriminate for reasons of color, creed, national origin or gender. Any organization may petition to the Vice Chancellor for Student Affairs for exemption from the requirement as it applies to gender. Academic and professional organizations which have discriminatory membership policy based on gender shall not be recognized.
3) Organizations' membership shall not be subject to approval by anyone other than the local campus membership.
4) Organizations are expected to maintain fiscal responsibility.
5) Recognized and registered organizations are required to seek the advice of faculty and other members of the community.
6) Recognized organizations are required to participate in the Student Governance process.

IV Procedure for Review of Grievances

A. Any member of the university community may bring charges against a recognized organization for breach of the above policies or procedures.

B. Such charges, except those pertaining to discrimination, are brought initially to the Vice Chancellor for Student Affairs, who may:
1) Dismiss the charges, in which case an appeal may be made to the Senate Student Affairs Committee.
2) Settle the charges in a way acceptable to both parties or,
3) Refer the charges to the Senate Student Affairs Committee.

C. Penalties may range from withdrawals of one or more privileges to withdrawal of recognition or registration. Assessment of penalties shall also provide for the conditions leading to reinstatement of such privileges for recognition.

D. Either party to the charges may appeal the decision of the Senate Student Affairs Committee to the Chancellor.

Policy on Hazing

Hazing, defined by the Fraternity Executive Association and accepted by the University of Missouri-St. Louis, is any intentional action taken or situation created, whether on or off university premises, that produces mental or physical discomfort, embarrassment, harassment, or ridicule. This includes but is not limited to: paddling in any form, creation of excessive fatigue, physical or psychological shocks, wearing apparel publicly which is conspicuous and not normally in good taste, engaging in public stunts and buffoonery, morally degrading or humiliating games and activities, involuntary labor, or any activity not consistent with the University of Missouri Board of Curators Standard of Student Conduct. The University of Missouri-St. Louis does not condone or tolerate hazing of any type by an organization, or by an individual against another individual.

The Office of Student Activities will investigate any incident in which a charge of hazing has been made. University recognition may be temporarily withdrawn pending hearings and due process procedures.

Should it be determined that a student organization or any of its members is guilty of hazing as previously defined, sanctions may include but are not limited to:

A. Automatic and indefinite suspension of campus recognition or registration with an accompanying loss of all campus privileges (i.e. use of facilities, student services, etc.);

B. Disciplinary action against those members involved in the incident(s) including suspension or expulsion from the university.
University of Missouri Equal Opportunity Statement

The University of Missouri-St. Louis is committed to equal employment and educational opportunities without regard to conditions of race, color, sex, religion, national origin, age, physical ability, veteran status, or individuals with HIV, AIDS, or ARC.

Each administrative unit of the university employing personnel, admitting students, or entering into contracts is charged with implementing the University’s commitments, and maintenance of records to demonstrate good faith efforts, in admission and training, recruiting and hiring, compensating and promoting, layoff and dismissal, granting of tenure, contracting and purchasing, and access to facilities and programs.

As an employer and as an institution accountable to taxpayers and the general public, the University must have administrative and management practices that are designed for the best use of talent for operational effectiveness and efficiency.

(1) Recruitment and employment of personnel
   a. Recruitment of professors and academic personnel in research and continuing education/extension is primarily the responsibility of deans, directors, chairpersons, and department heads.
   b. Recruitment of administrative, service, and support staff, except for top-ranking administrative personnel, is primarily the responsibility of the personnel office of each campus, and the director of the Human Resources for the University of Missouri-St. Louis administration. Selection is the responsibility of the administrative head of the employing unit.
   c. Administrative efforts are made to recruit and employ minorities, women, the handicapped, and members of protected age groups.
   d. The University maintains relationships with governmental agencies, community groups, and other organizations which may be of assistance in furthering recruitment and employment of minority groups, handicapped persons, and women into departments and units which have imbalances. Personnel sources are advised of the University's commitment to equal opportunity and affirmative action.
   e. Imbalances exist when available talent among specified minorities, women, handicapped, or protected age group members is proportionately underrepresented in a particular personnel category in the university.

Underrepresentation is determined by an analysis of the appropriate employment market which is generally national or regional for major administrators, professors, and academic personnel in research and continuing education/extension. The appropriate employment market is generally the state or local community for most administrative positions and for service and support staff.

f. Advertisement and notices of employment opportunities indicate a filing date for consideration.

g. Notice of employment and training opportunities are made to existing personnel.

h. Employment applications meet federal and state requirements relating to equal opportunity.

I. The Office of Equal Opportunity maintains records to demonstrate efforts and results of efforts to achieve equity and to act affirmatively and reasonably to correct imbalances.

(2) Salaries, wages, and benefits
   a. University compensation and benefit programs are administered without regard to conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.
b. The salary range for academic positions is determined in advance of recruitment on the basis of prevailing national levels and departmental scales for the educational attainment, experience, and specialty desired.

(3) Facilities, activities, and working conditions
a. University facilities are maintained on an equitable and nondiscriminatory basis. Physical facilities have been adapted within the limits of the financial resources available to insure access to the university by the physically handicapped.

b. Opportunities for involvement in university activities are provided on an equitable or nondiscriminatory basis.

(4) Promotion and training
a. Promotions, contract renewals, the granting of tenure, and reductions in force of academic personnel are handled in accordance with established university procedures and qualification criteria for all persons and free of discrimination.

b. University policy requires that promotions, demotions, layoffs, recalls from layoffs, transfers, and temporary hires for service and support personnel are determined without regard to conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.

c. Participation in training and educational programs sponsored by the university, including apprenticeships, is open to all employees within eligible job classifications.

d. The university offers developmental programs for professional and personal growth to enhance promotion potential.

(5) Student admission and retention
a. The university gives students equal access to its academic programs without regard to conditions of race, color, sex, religion, national origin, age, or physical ability. Furthermore, the university seeks to recruit, enroll, retain, and graduate minority group members and women in those fields in which they are underrepresented.

b. The University of Missouri has a unique responsibility for graduate and professional public higher education in the state of Missouri. Therefore, academic departments offering doctoral and/or advanced professional programs in disciplines and professions in which there is a deficiency of minorities and women have adopted methods to encourage enrollment, retention, and graduation of minority group members and women.

c. Affirmative action is taken to offer graduate teaching and research assistantships to minorities and women.

d. Business, government, industry, and labor are solicited to assist and provide support to minorities and women through financial aid and by providing work experiences as they pursue academic objectives.

e. Personnel representatives of prospective employers using university services and facilities to interview and recruit students must be equal opportunity employers, and must give all qualified students equal opportunity for interviews, without regard to conditions of race, color, sex, religion, national origin, age, disability, or veteran status.

(6) Appeal and grievance procedures
a. Grievance procedures are available for the processing of complaints and grievances of alleged discrimination based on conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.

b. A student grievant has access to the student grievance procedures through the Office of Student Affairs, the school or college, the campus, and central administration.

c. The Office of Equal Opportunity currently provides advice and information to grievants on the grievance procedures.

(7) Records and reports
a. The administrative head of each university unit must be prepared to demonstrate that equal opportunity is practiced and that affirmative action is taken in recruiting and employment of full-time and part-time personnel, admission and retention of students, provision of facilities and programs, and purchasing and contracting.

b. Each responsible administrative unit of the university must be prepared to show that procedures followed and selections made are in compliance with policies on equal employment and affirmative action. Admissions applications are retained for one year and employment applications are retained for one year.

University business involving contracts and bids for various services are retained in compliance with University of Missouri record management policies.

c. Those responsible for recruiting, admitting, and retaining students "undergraduate, graduate and professional" maintain files and records documenting efforts to provide equal opportunity and act affirmatively to attract and retain minority group members, women, and older and handicapped persons. A report is made annually to the appropriate administrative committee.

d. Campus administrative officers have records demonstrating efforts to provide equal opportunity and show affirmative action in the interests of minority group members, women, and handicapped and older persons in the availability and use of university facilities, including recreational facilities.

e. Those responsible for personnel recruitment and employment personnel, including graduate teaching and research assistants, have records that reflect their adherence to equal opportunity and affirmative action practices.

f. Academic or administrative units receiving complaints or grievances based on allegations of discrimination report those cases to the Office of Equal Opportunity.

(8) Reviewing and monitoring
a. A university Committee on Equal Employment Opportunity and Affirmative Action (EEO/AA) is appointed annually by the Chancellor.

b. EEO/AA committee membership includes a reasonable cross section of personnel, including a representation of women, minorities, and the handicapped.

c. The EEO/AA committee advises the Director of Equal Opportunity on matters relating to affirmative action and university equal employment policy.

d. Administrative officers (chancellor, vice chancellors, deans, directors, department chairpersons, and all other supervisory personnel) are responsible for implementation of equal opportunity and affirmative action policies and practices within their areas of jurisdiction, and the effectiveness of implementation will be an element in the evaluation of the performance of each officer.

(9) Dissemination
a. Equal opportunity and affirmative action policies and programs are disseminated throughout the university and discussed at appropriate school, college, departmental, management, and supervisory meetings. The subjects covered include attraction, admission, and retention of students; recruitment, employment, training, promotion, and transfer of employees.
b. University employees, faculty, staff, and students are kept informed of equal opportunity programs and affirmative action goals through campus publications and communications, the Personnel Policy Manual, the Faculty Handbook, divisional and departmental meetings, staff orientation programs, and posters.

c. Copies of the Equal Employment and Affirmative Action policies are available to a cross section of community organizations, news media, area colleges, secondary schools and recruiting sources.

d. Copies of the Affirmative Action Policy will be made available on request to employees, applicable governmental agencies, and contractors or subcontractors.

e. University invitations to bid, purchase orders, and specifications to architects and engineers contain the university's equal opportunity policy.

f. University correspondence, employment notices and advertising, academic information, and other public notices contain the university's equal opportunity phrase.

330.60 Sexual Harassment

This University of Missouri policy aims for an increased awareness regarding sexual harassment by making available information, education and guidance on the subject for the university community.

A. Policy Statement—It is the policy of the University of Missouri, in accord with providing a positive discrimination -free environment, that sexual harassment in the work place or the educational environment is unacceptable conduct. Sexual harassment is subject to discipline, up to and including separation from the institution.

B. Definition—Sexual harassment is defined for this policy as either:
   (I) unwelcome sexual advances or requests for sexual activity by a university employee in a position of power or authority to a university employee or a member of the student body, or
   (ii) other unwelcome verbal or physical conduct of a sexual nature by a university employee or a member of the student body to a university employee or a member of the student body, when:
   1. Submission to or rejection of such conduct is used explicitly or implicitly as a condition for academic or employment decisions;
   or
   2. The purpose or effect of such conduct is to interfere unreasonably with the work or academic performance of the person being harassed; or
   3. The purpose or effect of such conduct to a reasonable person is, to create an intimidating, hostile, or offensive environment.

C. Non-Retaliation—This policy also prohibits retaliation against any person who brings an accusation of discrimination or sexual harassment or who assists with the investigation or resolution of sexual harassment.

Notwithstanding this provision, the university may discipline an employee or student who has been determined to have brought an accusation of sexual harassment in bad faith.

D. Redress Procedures—Members of the university community who believe they have been sexually harassed may seek redress, using the following options:
   1. Pursue appropriate informal resolution procedures as defined by the individual campuses. These procedures are available from the campus Affirmative Action/Equal Opportunity Officer.
   2. Initiate a complaint or grievance within the period of time prescribed by the applicable grievance procedure. Faculty are referred to Section 370.010, "Academic Grievance Procedures"; staff to Section 380.010, "Grievance Procedure for Administrative, Service and Support Staff"; and students to Section 390.010, "Discrimination Grievance Procedure for Students."

Pursuing a complaint or informal resolution procedure does not compromise one's rights to initiate a grievance or seek redress under state or federal laws.

E. Discipline—Upon receiving an accusation of sexual harassment against a member of the faculty, staff, or student body, the university will investigate and, if substantiated, will initiate the appropriate disciplinary procedures. There is a five-year limitation period from the date of occurrence for filing a charge that may lead to discipline.

An individual who makes an accusation of sexual harassment will be informed:
1. At the close of the investigation, whether or not disciplinary procedures will be initiated; and
2. At the end of any disciplinary procedures, of the discipline imposed, if any.

240.040 Policy Related to Students with Disabilities

Executive Order No. 21, 11-1-84; Amended 2-25-97.

EQUALITY OF ACCESS

The University of Missouri (UM) strives to assure that no qualified person with a disability 1 shall, solely by reason of the disability, be denied access to, participation in, or the benefits of any program or activity operated by UM. Each such qualified person shall receive reasonable accommodations to provide equally effective access to educational opportunities, programs, and activities in the most integrated setting appropriate unless provision of such reasonable accommodation would constitute an undue hardship on the university or would substantially alter essential elements of the academic program or course of study or would otherwise compromise academic standards. This policy shall apply to all programs, services, and activities of the university, including but not limited to recruitment, admissions, registration, financial aid, academic programs, advising, counseling, student health, housing and employment.

B. FEDERAL AND STATE LAWS

This policy is intended to be consistent with Section 504 of the Rehabilitation Act of 1973, which states that no recipient of federal financial assistance may discriminate against qualified individuals with disabilities solely by reason of disability. This policy is also intended to be consistent with the Americans with Disabilities Act of 1990 and the Missouri Human Rights Act.

C. FACILITIES

Each program or activity, when viewed in its entirety, shall be accessible to otherwise qualified and eligible students with disabilities. Facilities, or parts of facilities, constructed or renovated for UM use will be designed and built so that they are accessible to and usable by persons with disabilities, in accordance with the ADA Accessibility Guidelines or other accessibility standards properly adopted by the campus. Accessible on-campus housing and food service will be provided
at the same cost and with the same program options to qualified students with disabilities as are afforded to non-disabled students. When any UM classes, programs or activities are held in private facilities, thorough efforts shall be made to obtain facilities which are accessible.

D. COORDINATION OF PROGRAMS AND SERVICES FOR STUDENTS WITH DISABILITIES

1. Campus disability support service (DSS) offices or other designated campus units are responsible for coordination of programs, services, and classroom accommodations for qualified applicants for admission and qualified enrolled students with disabilities. Such coordination relates solely to disability issues. Determinations as to whether a student is otherwise qualified often will be based on the academic requirements developed by the faculty. Specific services available to qualified students with disabilities will be provided by the university in conformity with the requirements of federal and state law.

2. Determinations as to whether requested services and requested accommodations are required will be made initially by the Coordinator of DSS. Accommodation of the disability will be determined by the coordinator and faculty member, and if either disagrees with the prescribed accommodation, such disagreement shall be described in writing promptly and submitted to the Chancellor or his/her designee for resolution in a prompt manner.

3. Initial determinations and any disagreements submitted to the Chancellor or his or her designee will take into consideration all relevant factors including, but not limited to, the following: a. current documentation of the specific disability and of the need for the requested services or accommodations; b. the essential elements of the academic program or course of study being pursued; c. the fact that the law does not require a university to substantially alter essential elements of its academic program or course of study or to otherwise compromise its academic standards.

4. All students seeking disability-related services and/or accommodations must disclose the presence of a specific disability to DSS. Before receiving requested services and/or accommodations, the student will be required to provide the DSS office with current medical or other diagnostic documentation of a disability from a qualified physician or other qualified diagnostician, as well as current documentation of the need for accommodations. In cases where existing documentation is incomplete or outdated, students may be required to provide additional documentation at the student's expense.

5. It is the student's responsibility to self-identify, to provide current and adequate documentation of his/her disability, and to request classroom accommodations, through the DSS office. The appropriate documentation must be provided in a timely manner to ensure full resolution of accommodations prior to the student's entrance into the program or course of study. Documentation review and accommodations planning by DSS, including consultation with faculty and/or other campus entities that may be affected in providing accommodations, will be done on an individualized case-by-case basis.

6. Reasonable classroom accommodations will be provided to otherwise qualified and eligible students with disabilities who have self-identified and who have provided satisfactory documentation in support of their timely request for such accommodations, in compliance with federal and state mandates. These accommodations shall not affect the substance of the educational programs or compromise educational standards.

7. In addition to providing accommodations needed to ensure nondiscrimination in access to educational opportunities by otherwise qualified students with disabilities, the university is responsible for ensuring that no qualified disabled student is denied the benefits of or excluded from participation in a university program because of the absence of auxiliary aids, services, and/or other reasonable accommodations. Auxiliary aids, services, and/or other accommodations include but are not limited to interpreters (sign or oral), readers, scribes, adaptive equipment, and other appropriate services or equipment necessary for course or program accessibility.

8. While funding for accommodations to ensure equally effective access is provided by the university, funding for auxiliary aids, accommodations, and/or services in some instances may be shared with state vocational rehabilitation agencies. The law does not require and the university does not provide prescription devices or other devices/services of a personal nature (e.g. personal attendants) for students with disabilities.

E. ESTABLISHMENT OF CAMPUS POLICIES

Chancellors are directed to establish campus policies and/or procedures consistent with this order. These should cover, at a minimum, treatment of disability-related information and appropriate regard for confidentiality, responsibilities of students in applying for services through DSS, time lines to assure that students make accommodation requests in a timely manner, guidelines to assure that disability documentation is reasonably current, a description of the process of individualized assessment of each student's disability documentation and accommodation request(s), the role of faculty in determining the essential elements of the academic program or course of study and the academic standards involved in the accommodations planning and review process within the context of academic program requirements, and the processing of complaints and grievances including a procedure for appeal when faculty and/or academic administrators or administrators in other involved campus entities do not agree with the DSS on the requirements of this policy.

1. From the U.S. Justice Department's ADA Title II Technical Assistance Manual, Section II-2.8000: Qualified individual with a disability. In order to be an individual protected by Title II, the individual must be a "qualified" individual with a disability. To be qualified, the individual with a disability must meet the essential eligibility requirements for receipt of services or participation in a public entity's programs, activities, or services with or without: 1) Reasonable modifications to a public entity's rules, policies, or practices; 2) Removal of architectural, communication, or transportation barriers; or 3) Provision of auxiliary aids and services. The "essential eligibility requirements" for participation in many activities of public entities may be minimal. For example, most public entities provide information about their programs, activities, and services upon request. In such situations, the only "eligibility requirement" for receipt of such information would be the request for it. However, under other circumstances, the "essential eligibility requirements" imposed by a public entity may be quite stringent.
ILLUSTRATION: The medical school at a public university may require those admitted to its program to have successfully completed specified undergraduate science courses.

PROVISIONS FOR SERVICES TO STUDENTS WITH DISABILITIES AND REASONABLE ACCOMMODATIONS

POLICY AND PROCEDURES

POLICY

The University of Missouri is committed to equal educational opportunities for qualified students with or without regard to disabling condition. The University, therefore, will take necessary action to ensure that no otherwise qualified student with a disability is denied access to any particular course or educational program. Such action includes an assessment of the student’s abilities and an evaluation of the particular course or program.

IMPLEMENTATION PROCEDURES

It is the student’s responsibility to self-identify, to provide current and adequate documentation of his/her disability and to request classroom accommodation, through the disability services office. A request for services will initiate an assessment of needs, including a documentation review and accommodations planning by DSS, involving consultation with faculty and/or other campus entities that may be affected in providing accommodations, and will be done on an individualized case-by-case basis. Initial determinations as to whether requested services and/or accommodations are required will be made by the coordinator of disability services based on results of the assessment of needs. If either the faculty member of the disability coordinator disagrees with the prescribed accommodation, such disagreement shall be described in writing promptly and submitted to the Chancellor or the university personnel or designee for resolution in a prompt manner.

The University will make reasonable modifications to its academic requirements, if necessary, to comply with legal requirements ensuring that such academic requirements do not discriminate or have the effect of discriminating on the basis of a students known and adequately documented disability; unless the requested modification would require alteration of essential elements of the program or essential elements of directly related licensing requirements or would result in undue financial or administrative burdens. The divisional dean’s office, in cooperation with the disabilities service coordinator and the department through which the requirement is fulfilled, will determine the appropriate modification of substitution. Any qualified student with a disability who believes that accommodations and/or auxiliary aid(s) will be necessary for participation in any course, course activity, or degree program must indicate a need for services to the designated disability services office at least six weeks prior to the beginning of the semester or degree program.

The disability services coordinator will oversee an assessment of the student’s request for services and/or accommodations. If an unfavorable determination is made, the student may appeal the decision through the UM Discrimination Grievance Procedure for Students.

AIDS Policy Statement

Current knowledge indicates college and university students or employees with AIDS, ARC, or a positive antibody blood test do not pose a health risk to either students or employees in a usual academic or residential setting. The policy of University of Missouri is to permit students and employees with AIDS to continue to engage in as many of their normal pursuits as their condition allows. Managers should be sensitive to the medical problem and ensure that such employees are treated consistent with the treatment of other employees. Students will be allowed to continue their enrollment and activities (including continued residency in student housing) as long as they continue to meet academic standards and medical evidence indicates their conditions are not a threat to themselves or others. Every effort will be made to maintain confidentiality at all times.

The university also has a legitimate interest in the welfare of all students, employees, and visitors to the campus. Every reasonable precaution will be taken to minimize the risk that an employee’s or student’s condition will present a health and/or safety hazard to others.

The university will not discriminate against individuals with HIV infection, AIDS or ARC, but this protection does not include individuals with secondary infections or diseases that would constitute a direct threat to the health or safety of others or who may because of the disease or infection be unable to perform duties of their employment. In such cases, the appropriate university personnel or student policy will determine what changes, if any, will be made in the student’s or employee’s academic or work program.

In the event of public inquiry concerning AIDS on campus, the Chancellor or the Chancellor’s designee will provide appropriate information on behalf of the university. Existing policies regarding confidentiality of employee and student records will be followed.

Consistent with its concern for students and employees with AIDS, the university offers a range of resources through the AIDS Task Force on each campus and through other campus services.

a. Student, employee, and management education and information;

b. Referral to agencies and organizations that offer supportive services for life-threatening illnesses;

c. Consultation to assist employees in effectively managing health, leave, and other benefits.

The AIDS Task Force on each campus will continue to meet periodically to review and update policy and to make recommendations as new medical facts become available. Each Task Force will continue to encourage programs to educate all members of the campus community about the reality of AIDS.

To address specialized needs, each campus is authorized to adopt and implement special policies related to AIDS which are consistent with this policy statement.

330.80 Maintaining a Positive Work and Learning Environment

1. The University of Missouri is committed to providing a positive work and learning environment where all individuals are treated fairly and with respect, regardless of their status. Intimidation and harassment have no place in a university community. To honor the dignity and inherent worth of every individual student, employee, or applicant for employment or
admission is a goal to which every member of the university community should aspire and to which officials of the university should direct attention and resources.

2. With respect to students, it is the university's special responsibility to provide a positive climate in which students can learn. Chancellors are expected to provide educational programs and otherwise direct resources to creative and serious measures designed to improve interpersonal relationships, to help develop healthy attitudes toward different kinds of people, and to foster a climate in which students are treated as individuals rather than as members of a particular category of people.

3. With respect to employees, the strength we have as a university is directly related to maintaining a positive work environment throughout the institution. The university should provide a positive recruiting and work environment focused on the duties and skills of the work to be performed. It is the expectation of the university that all employees and potential employees will be treated on the basis of their contribution or potential contribution without regard to personal characteristics not related to competence, demonstrated ability, performance, or the advancement of the legitimate interests of the university. The General Officers are expected to provide training programs for supervisors to assist in achieving this objective.

4. With respect to violations of the policy, faculty, staff, and students may utilize their respective grievance procedures approved by the Board of Curators. The approved grievance procedures are as follows: Grievance procedure in Section 370.010 for faculty; grievance procedure in Section 380.010 for staff; and grievance procedure in Section 390.010 for students, and each such procedure shall be deemed as amended to include grievances filed under this policy. This policy shall not be interpreted in such a manner as to violate the legal rights of religious organizations, or military organizations associated with the Armed Forces of the United States of America.

Other Procedures or Regulations

Discrimination Grievance Procedure for Students 390.010
December 17, 1982, and January 25, 1990

A. GENERAL

1. It is the policy of the University of Missouri to provide equal opportunity for all enrolled students and applicants for admission to the university on the basis of merit without discrimination on the basis of their race, color, religion, sex, national origin, age, or disability, or Vietnam era veteran status. Sexual harassment shall be considered discrimination because of sex.

2. To insure compliance with this policy, all University of Missouri prospective or enrolled students shall have available to them this student discrimination grievance procedure for resolving complaints and/or grievances regarding alleged discrimination.

3. This grievance procedure neither supersedes nor takes precedence over established university procedures of due process for any and all matters related to Academic Dishonesty, Grade Appeals, Traffic Appeals, Disciplinary Appeals, or other specific campus procedures which are authorized by the Board of Curators and deal with faculty/staff responsibilities.

4. These proceedings may be terminated at any time by the mutual agreement of the parties involved.

NOTE: A grievance concerning specific incidents filed under this discrimination grievance procedure shall not be processed on behalf of any student who elects to utilize another university grievance procedure. In addition, the filing of a grievance under these procedures precludes the subsequent use of other university grievance or appeals procedures for the same incident.

B. DEFINITIONS

1. A complaint is an informal claim of discriminatory treatment. A complaint may, but need not, constitute a grievance. Complaints shall be processed through the informal procedure herein set forth.

2. A grievance is the written allegation of discrimination which is related to:
   a. Recruitment and admission to the institution.
   b. Admission to and treatment while enrolled in an education program.
   c. Employment as a student employee on campus.
   d. Other matters of significance relating to campus living or student life, including, but not limited to: Assignment of roommates in resident halls; Actions of fraternities and sororities; Membership in and/or admission to clubs/organizations; Student Health Services; Financial aid awards.

3. A student is any person who has applied for admission or readmission, or who is currently enrolled, or who was a student of the university of Missouri at the time of the alleged discrimination.

4. Persons with disabilities--For the purpose of this student discrimination grievance procedure, a "person with a disability" has been substituted for "handicapped individual" (Section 504, Rehabilitation Act of 1973) and shall be defined as "...any person who
   a. Has a physical or mental impairment which substantially limits one or more of such person's major life activities,
   b. Has a record of such impairment, or
   c. Is regarded as having such an impairment

For purpose of this definition, A "major life activity" means any mental or physical function or activity which, if impaired, creates a substantial barrier to employment and/or education.

Any reference in this document to written materials or to written or oral presentations within the student discrimination grievance procedure may be adjusted to accommodate persons with disabilities for whom the stated materials or required presentations would not be appropriate. Cost of such accommodation will be borne by the university, with no charge to the individual.

5. Appropriate Administrative Officer--The primary administrative officer on the staff of the Chancellor (in the area of Student Affairs/ Services, Administrative Services, Development, and Academic Affairs) having administrative responsibility for the unit in which the discrimination is alleged to have occurred.

6. Grievance Consultant--At any step the Director of Equal Opportunity or of Affirmative Action may be asked to serve as a
Consultant by any of the parties involved in this grievance procedure.

C. COMPLAINTS

1. Policies and Procedures--A student with a complaint will be provided with copies of appropriate policies and procedures pertaining to student complaints and grievances, and the Chief Student Personnel Administrator or his/her designee and the Officer for Equal Opportunity or for Affirmative Action shall be available to assist the student in understanding the opportunities afforded through such policies and procedures. The student may choose to have an advisor participate in any stage of the grievance procedure, subject to the restrictions of the hearing procedures set forth in Section 390.010 F.

2. Joint Complaint--If more than one student is aggrieved by the same action, these students may, by mutual written agreement among themselves, file with the Chief Student Personnel Administrator a complaint and pursue their complaints jointly under this grievance procedure. If the number of students in such a case is so large as to make it impracticable for them to be heard individually in a joint proceeding, they may, by mutual agreement, elect one or more of their number to act on behalf of them all.

3. Students may informally discuss a complaint with the relevant supervising administrator. Every reasonable effort should be made to resolve the matter informally at this administrative level. If a satisfactory resolution is not reached, the student may pursue the matter through each level of administrative jurisdiction up to and including the Appropriate Administrative Officer, or file a grievance within the time specified in D.l.b.

4. Complaints Involving Recruitment
a. Undergraduate applicants must first present complaints about recruitment to the Director of Admissions. If a satisfactory resolution is not reached, the applicant may appeal the matter to the immediate supervising officer of the Director of Admissions.

b. Applicants for graduate study may request a meeting with the academic department head and the dean of the college, or their designees, who are actually involved in the recruitment effort to discuss the matter informally. If a satisfactory resolution is not reached, the applicant may appeal to the Dean of the Graduate School and finally to the Appropriate Administrative Officer.

5. Complaints Involving Admissions (Undergraduate or Professional)

a. Undergraduate and professional student applicants shall present complaints to the Director of Admissions or to the dean of the school or college, depending upon where the application was originally filed.

b. This university official shall compare the person's academic qualifications against the official university admissions criteria and review the denial. If the denial is sustained, the applicant may appeal this decision to the official's immediate supervisor or to the appropriate admissions committee.

6. Complaints Involving Admissions (Graduate)--Applicants to the Graduate School may ask for a meeting with the academic department head of the program to which the applicant was seeking admission.

This official shall explain the reasons for the denial of recommendation for admission. If a satisfactory resolution is not reached, the applicant may then appeal to the Dean of the Graduate School or to the appropriate admissions committee. If the denial is upheld, the applicant may appeal the decision to the appropriate administrative officer.

7. Complaints Involving Admissions to or Treatment in an educational Program or in the Granting of Assistantships - An undergraduate or graduate student enrolled at the institution who has a discrimination complaint involving admission to or treatment in an educational program or in the granting of assistantships may request a conference with the appropriate department head and with the dean of the school or college (or the dean's designee) to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 F.

8. Complaints Involving Nonacademic Matters Related to Campus Living and Student Life--A currently enrolled student who has a university-related complaint concerning discrimination in nonacademic matters including but not limited to assignment of roommates, actions of fraternities and sororities, membership in and/or admissions to clubs/organizations, student health services and financial aid awards may request a conference with the appropriate administrative supervisor, department head and/or director to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 D.

9. Complaints Involving Student Employment on Campus. A student enrolled at the university who alleges that discrimination occurred either in applying for work or while working as a student employee at a university job may request a conference with the supervisor, department head or director of the employing unit to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 D.

10. Complaints Involving Financial Aid (Undergraduate, Graduate, Professional):

a. Undergraduate, graduate, and professional student aid applicants shall present complaints to the Director of Student Financial Aid where the application was originally filed or the award originally made.

b. This university official shall compare the person's financial and academic qualifications against the official university financial aid criteria and review the award, amount, or denial of the aid. If the original judgment is sustained, the applicant may appeal this decision to the official's immediate supervisor or to the appropriate financial aid committee.

D. INITIATING A GRIEVANCE

1. Policies and Procedures-- student with a grievance will be provided copies of appropriate policies and procedures pertaining to student complaints and grievances, and the Chief of Student Personnel Administrator or designee and the Office for Equal Opportunity or for Affirmative Action shall be available to assist the student in understanding the opportunities afforded through such policies and procedures. The student may choose to have an advisor participate in any stage of the grievance procedure, subject to the restrictions of the hearing procedures set forth in Section 390.010 F.

a. Joint Grievance--If more than one student is aggrieved by the same action, these students may, by mutual written agreement among themselves, file with the Chief Student Personnel Administrator a grievance and pursue their grievances jointly
under this grievance procedure. If the number of students in such a case is so large as to make it impractical for them to be heard individually in a joint proceeding, they may, by mutual agreement, elect one or more of their number to act on behalf of all of them.

b. Regardless of their nature, all discrimination grievances are to be filed with the Chief Student Personnel Administrator. A grievance must have been filed by a student within one-hundred-eighty (180) calendar days of the date of the alleged discriminatory act.

2. Filing a Grievance
   a. All grievances must be presented in writing and contain the following information:
      1) A clear concise statement of the grievance which includes the name of the person(s) against whom the grievance is made, the date(s) of the alleged discrimination and a statement describing the specific supporting evidence;
      2) A brief summary of the prior attempts to resolve the matter which includes the names of persons with whom the matter was discussed and the results of those previous discussions;
      3) A specific statement of the remedial action or relief sought.
   b. Within seven (7) working days, the original grievance form with an explanation will be returned to the student if, in the judgment of the Chief Student Personnel Administrator, the statements are vague or do not meet the above requirement. The student may make the necessary corrections and resubmit the grievance within seven (7) days.

3. Any grievance not filed within the time limits specified in Section 390.010 D.1.B shall be deemed waived by the grievant. The Chief Student Personnel Administrator may extend the time limits only if adequate cause for an extension of the time limits can be shown by the student.

4. For informational purposes, copies of the grievance shall be forwarded to the Appropriate Administrative Officer and the Director of Equal Employment and/or Affirmative Action.

5. Within fifteen (15) working days of receipt of a grievance that satisfies the requirements of Section 390.010 D.1.b, the Appropriate Administrative Officer with the consent of the parties involved may establish an informal hearing with the aggrieved student, the responding faculty/staff/organization, the respondent's supervisor and the Appropriate Administrative Officer's designee. The Appropriate Administrative Officer shall not involve himself/herself in this meeting. If this informal means of resolving the grievance fails, a grievance committee will be impaneled as called for in Section 390.010 E.1.

E. FORMATION OF GRIEVANCE COMMITTEE

1. It is the Appropriate Administrative Officer's responsibility to initiate the selection of the grievance committee within fifteen (15) working days after the request for the formation of a grievance committee or after the completion of the informal hearing provided for in Section 390.010 F.5 without satisfaction to the grievant.

2. A grievance hearing panel shall be established by October 1 of each year from which a grievance committee should be constituted. The panel shall consist of ten (10) faculty, ten (10) staff and ten (10) students. Selection of the panel will be made by the Chief Student Personnel Administrator from recommendations by the appropriate faculty, staff and student associations. Selection of membership will consider sex, race, disability, academic rank, student classification and employee classification. Membership on the hearing panel shall be for two years. A member's term shall expire on September 30 of the second year unless he/she is serving at that time on hearing committee still in the process of reviewing an unresolved grievance. In such case, the member's term shall expire as soon as the committee has submitted a written report of its findings and recommendations to the Appropriate Administrative Officer.

3. A hearing committee shall be composed of five (5) members. The grievant shall select two (2) members from the grievance hearing panel provided by the Chief Student Personnel Administrator. The responding faculty/staff/organization shall select two (2) members from the grievance hearing panel. Both parties should have their selections made within 15 working days of the receipt of the request. The four committee members shall then select an additional member from the grievance hearing panel to serve as chair. Neither members of the immediate departmental unit nor student members of pertinent student organizations involved in the grievance shall be eligible to serve on the committee.

4. Any person selected to a grievance committee will be expected to serve on such committee and to be present at all sessions. If a member is absent from a single session, he/she will be required to review all tapes or transcribed proceedings of that session prior to the next meeting of the committee. Should a member be absent from two sessions or should a member request to be excused from service for reasons of illness, necessary absence from the campus or other hardship, then that member shall be replaced in the same manner used in the original selection (see Section 390.010 E.3). If a member is unable or ineligible to serve for whatever reason, the replacement shall review all tapes or written transcripts and all submitted evidence prior to service on the committee. Five members of the hearing committee, duly selected as in Sections 390.010 E.3 and E.4 must attend the opening and closing session of the hearing.

F. HEARING PROCEDURES FOR FORMAL GRIEVANCES

1. It shall be the responsibility of the Appropriate Administrative Officer to coordinate the procedures contained herein, to make provisions for hearing rooms, to coordinate secretarial and recording services and to otherwise serve the grievance committee as needed.

2. At the first organizational meeting of the grievance committee, the committee shall elect a chairperson from among the members to preside over subsequent meetings.

   Then the chairperson shall schedule a hearing at the earliest convenient time when all affected parties can be present.

3. A quorum consists of a minimum of four members of the committee except as provided by Section 390.010 E.4.

4. The grievance committee shall invite the grievant and the responding person to all hearings. Attendance at the hearings shall be limited to persons who have an official connection with the case as determined by the chairperson. The grievant and the responding person may choose to be accompanied by an adviser. Others whose participation in the hearing is considered essential in order to assist the committee in establishing the facts of the
case shall appear before the committee only long enough to give testimony and to answer questions of committee members.

5. It is within the duties and responsibilities of all members of a grievance committee to commit themselves to observe procedures consistent with fairness to all parties concerned. For example, it is a matter of principle that members of the grievance committee will not discuss a case with anyone outside of the hearing process and that their finding will not be influenced by anything other than the evidence presented to them in meetings in which all affected parties are present.

6. The grievance committee shall set forth the rules of procedure for the hearing within the guidelines set forth herein. The chairperson may, for good cause and with the concurrence of a majority of the entire committee, authorize deviation from the suggested format, in which case the principal parties shall be notified.

a. The grievant shall be heard first in all phases of a grievance hearing and shall be primarily responsible for the presentation of his/her position.

b. The advisor of the grievant or respondent may advise that person and may briefly explain his or her position but shall not be permitted to testify or to cross-examine.

c. A reasonable time limit should be established for opening and closing statements and shall be announced prior to the hearing.

d. Length of hearing sessions may be established in advance; every effort should be made to conduct the hearing as expeditiously as possible, with equal fairness to both parties.

e. The interested parties shall provide the chairperson with the names of the adviser and potential witnesses at least forty-eight (48) hours prior to the hearing. It is the responsibility of the interested party, working with the chairperson, to ensure the presence of these individuals in a timely manner.

f. After initial witnesses for both parties have been heard, such witnesses may be recalled for additional questioning if requested by either party or the grievance committee. The committee may call new witnesses whose testimony it deems relevant or helpful.

g. In order to promote the truthful, unfettered exchange of information and ideas, all testimony pertaining to the grievance hearing shall be held in confidence.

h. Only evidence relevant to the grievance may be introduced. Questions regarding the admissibility of evidence shall be decided by the chairperson.

7. At any point in the proceedings prior to the time at which the committee reaches its final decision, the grievant may withdraw any portion or all of the grievance with the consent of a majority of the committee members and of the respondent. In all cases of withdrawal at the consent of the committee and of the respondent, the grievant shall not have the privilege of reopening the same grievance at any time in the future. In the event that the student refuses to participate further in the committee hearing, the committee may choose to continue the case or to move to closure with an appropriate closing statement as per Section 390.010 F.9.

8. A confidential tape recording of the grievance hearing shall be made and will be accessible to the parties involved, the committee, the Appropriate Administrative Officer, the Chancellor, the President, members of the Board of Curators and authorized representatives on a need-to-know basis. Either party to the grievance may request that the committee provide a written transcript of testimony. The cost of preparation of such a transcript is to be paid by the party making such request unless Section 390.010 B.4 is applicable. After the report of the grievance committee has been prepared, the tapes and relevant materials will be sealed and filed in the Appropriate Administrative Office. Unless extraordinary circumstances apply, these materials will be destroyed at the end of five years.

9. At the conclusion of the grievance hearing, the members of the grievance committee shall meet in closed session to deliberate upon their findings. A majority vote of the entire committee shall be required on all decisions. The grievance committee shall make a written report on findings and recommendations to the Appropriate Administrative Officer of the university, with copies to the grievant(s) and the responding person(s). The written report will contain:

a. A statement of the purpose of the hearing,

b. Issues considered,

c. A summary of the testimony and other evidence presented,

d. Findings of fact as developed at the hearing, and

e. Recommendations for final disposition of the case.

10. The Appropriate Administrative Officer will make his/her decision. This decision and the actions that have been taken shall be presented to both parties in writing. If the administrative officer does not accept the recommendations of the grievance committee, a written statement of the reasons for so ruling must be given to both parties and to the chairperson of the committee.

11. If requested by the grievant or the responding party, normally within seven (7) calendar days of the notification of the decision, the decision of the Appropriate Administrative Officer may be subject to a review of the records by the Chancellor. Any review and decision by the Chancellor shall be made normally within thirty (30) calendar days. The decision of the Chancellor can be appealed to the President, who shall have thirty (30) calendar days in which to make a decision, which shall be final.

12. Grievances shall receive prompt attention. The hearing and the report of the grievance committee shall normally be completed within sixty (60) calendar days of the formation of the grievance committee, and a final decision shall be made by the Appropriate Administrative Officer normally within ten (10) calendar days thereafter. In any case in which these time schedules should prove to be inadequate, the committee shall present, in writing, an amended time schedule to all parties involved.
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