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BULLETIN

2005-06

University of Missouri-St. Louis

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Instructional Areas

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Accounting
Adult education
Africana studies
American studies
Anthropology
Applied mathematics
Archaeology
Art history
Astrophysics
Astronomy
Athletic coaching
Biochemistry
Biology
Biotechnology
Black studies
Business Administration
Ceramics
Chemistry
Chinese
Classical studies
Clinical laboratory science
Communication
Communication theory and rhetoric
Community Education
Comparative politics
Computer science
Conservation biology
Counselor education
Creative writing
Criminology and criminal justice
Cytotechnology
Dance
Drawing
Early childhood education
East Asian studies
Ecology
Economics
Educational administration
Educational foundations
Educational psychology
Educational research and evaluation methods
Educational technology
Elementary education
Employee training and development
Engineering (Civil, Electrical, Mechanical)
English
English as a second language
European studies
Fine arts
Finance
French
Forensic Economics
German
Gerontology
Graphic design
Greek
Health Sciences
Health Information Systems
History
Higher Education
Human Resource Management
Information systems
Interdisciplinary studies
International business
International relations
International studies
Japanese
Jazz studies
Latin American studies
Latin
Legal studies
Logistics and operations management
Management
Marketing
Mass communication
Mathematics
Medical physics
Middle school education
Music
Music education
Museum studies
Nonprofit organization management and leadership
Nursing
Optometry
Painting
Philosophy
Photographic studies
Physical education
Physics
Physiological optics
Political Science
Pre-architecture
Pre-engineering
Pre-journalism
Pre-law
Pre-medicine
Pre-optometry
Pre-pharmacy
Printmaking
Probability and statistics
Psychology
Public policy administration
Public affairs journalism
Public law
Radio and television

Religious Studies
Reserve Officer Training Corps
Secondary education
Social work
Sociology
Spanish
Special education
Sculpture
Statistics
Studio art
Theatre
Trauma studies
Tropical ecology
Urban politics
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, sexual orientation, 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, One University Boulevard, St. Louis, Missouri 63121-4400. 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.

University Programs and Offices

Area Code (314)

Academic Advising (Undeclared Majors)
225 Millennium Student Center, 516-5300
Academic Affairs, Provost and Vice Chancellor
426 Woods, 516-5371
Administrative Services, Vice Chancellor
130 Normandie Hall 516-6100
Admissions
351 Millennium Student Center, 516-5451
Alumni Center
7956 Natural Bridge, 516-5722
Alumni and Constituent Relations
101 Woods, 516-5833
Anthropology, Department of
507 Clark, 516-6020
Art and Art History, Department of
590 Lucas, 516-5975
- **Fine Arts**
  201 Fine Arts Bldg., 516-6967
- **Gallery 210**
  The Telecommunity Center, 516-5976
- **Gallery FAB**
  Fine Arts Bldg., 516-6967
- **Gallery Visio**
  109 Millennium Student Center, 516-7922

Arts and Sciences, College of
303 Lucas, 516-5501
Athletics Office
225 Mark Twain, 516-5661
Biology, Department of
223 Research Bldg., 516-6200
Bookstore & Computer Shop
209 Millennium Student Center, 516-5763
Business Administration, College of
487 SSB, 516-5888 (UG Academic Advising)
Cable TV Studio (ITC Control Room)
113 Lucas, 516-6171
Cafeteria
Millennium Student Center
Career Services
278 Millennium Student Center, 516-5111
Cashier's Office
285 Millennium Student Center, 516-5151
Center for Academic Development (CAD)
507 Tower, 516-5194
Center for Business and Industrial Studies
220 CCB, 516-5857 or 6108
Center for Economic Education Entrepreneurship
306 Tower, 516-5248
Center for Emerging Technologies
4041 Forest Park Ave, 63108, 615-6900
Center for Human Origin & Cultural Diversity
505 & 507 Clark, 516-6020
Center for the Humanities
406 Lucas, 516-5699
Center for International Studies
366 SSB Bldg., 516-5753
Center for Molecular Electronics
302 CME, 516-5334
Center for Neurodynamics
333 Benton, 516-6150
Center for Teaching and Learning
421 Woods Hall, 516-4508
Center for Transportation Studies
154 University Center, 515-7270
Center for Trauma Recovery
Kathy J. Weinman, Lower Level, 516-6738
Chancellor's Office
401 Woods, 516-5252
Chemistry and Biochemistry, Department of
315 Benton, 516-5311
Child Development Center, University
130 South Campus Classroom Bldg., 516-5658
Communication, Department of
590 Lucas, 516-5485
Computing, (Information Technology Services)
451 CCB, 516-6000
Continuing Education and Outreach
201 J.C. Penney, Program Support, 516-5961
225 J.C. Penney, Marketing & Information
516-5668
Counseling Services
126 Millennium Student Center, 516-5711
Criminology and Criminal Justice, Department of
325 Lucas, 516-5031
Degree Audit Program (DARS)
233 Millennium Student Center, 516-6814
Development Office
308 Woods, 516-5664
Disability Access Services
144 Millennium Student Center, 516-6554
Dispute Resolution Program
362 SSB Bldg., 516-6040
E. Desmond Lee Technology & Learning Center
100 Marillac Hall, 516-4800
Economics, Department of
408 SSB, 516-5351
Education, College of
201 Education Administration Bldg., 516-5109
- **Graduate Education**
  123 SCCB, 516-5483
- **Undergraduate Education**
  155 Marillac, 516-5937
- **Counseling and Family Therapy, Division of**
  469 Marillac Hall, 516-5782
- **Educational Leadership and Policy Studies, Division of**
  269 Marillac, 516-5944
- **Educational Psychology, Research, and Evaluation, Division of**
  402 Marillac Hall, 516-5783
- **Teaching and Learning, Division of**
  369 Marillac, 516-5791

Engineering, UM-St. Louis/Washington University Joint Undergraduate Engineering Program
228 Benton, 516-6800
English, Department of
484 Lucas, 516-5541
Executive Leadership Institute
427 SSB, 516-5276
Environmental Health and Safety
C400 Daughters of Charity, 516-6363
Facilities Services
127 GSB, 516-6320
Financial Aid
322 Millennium Student Center, 516-5526
Fine Arts and Communication, College of
210 General Services Building, 516-4570
Foreign Languages and Literatures, Department of
554 Clark, 516-6240
Gerontology Programs
406 Tower, 516-5280
Graduate School
421 Woods, 516-5900
Graphics & Printing
252 General Services, 516-5167
History, Department of
484 Lucas, 516-5681
Horizons Peer Counseling
427 SSB, 516-5730
Human Resource Services
211 GSB, 516-5804
Information Technology Services
451 CCB, 516-6000
Interfaith Campus Ministries
180 Millennium Student Center, 516-4545
International Business Institute
461 SSB, 516-6286
International Center for Tropical Ecology
216 Benton Hall, 516-4246
International Student and Scholar Services
261 Millennium Student Center, 516-5229
KWMU 90.7 FM Radio
104 Lucas, 516-5968
Libraries
Thomas Jefferson, 516-5057
St. Louis Mercantile, 516-7240
Ward E. Barnes South Campus Complex, 516-5576
Mathematics and Computer Science, Department of
303 CCB, 516-5741
Metropolitan Information and Data Analysis Services (MIDAS)
362 SSB Bldg., 516-5273
Missouri Research Park
14 Research Pk. Dr., Suite 200
St. Charles, MO 63304
(636) 441-7701
Multi-Cultural Relations
190 Millennium Student Center, 516-6807
Music, Department of
211 Music Bldg., 516-5980
National Scholarship Information, Office of
Honors College, 516-5243
National Student Exchange, Office of
Honors College, 516-6871
Nursing, College of
130 Administration Building-South Campus, 516-6066
Office of Equal Opportunity/Affirmative Action
127 Woods, 516-5695
Optometry, Clinics (University Center for Eye Care)
153 Marillac, 516-5131
East St. Louis Eye Center
601 James Thompson Blvd.,
Building D, Suite 2030
East St. Louis, Ill. 62201
618-482-8355
On-campus 516-6908
Harvester Eye Center
11 Charlestowne Plaza, St. Charles, MO 63303
636-441-5585
Optometric Center
3840 Lindell Blvd,
535-5016
Optometry, College of
331 Marillac, 516-5606
Student Services,
317 Marillac, 516-6263
Payroll
211 General Services Bldg., 516-5237
Performing Arts Center, 516-4100
Philosophy, Department of
599 Lucas, 516-5631
Physical Education Program
234 Mark Twain, 516-5226
Physics and Astronomy, Department of
503J Benton, 516-5931
Pierre Laclede Honors College
Provincial House, 516-6870
Police (Institutional Safety)
44 Telecommunity Center, 516-5155
Political Science, Department of
347 SSB, 516-5521
Printing Services
261 General Services Bldg., 516-5233
Psychology, Department of
325 Stadler, 516-5391
Public Policy Administration Master's Program
406 Tower, 516-5145
Public Policy Research Center
362 SSB Bldg., 516-5273
Records and Transcripts
269 Millennium Student Center, 516-5676
Regional Center for Education and Work
872-8282
Registration
269 Millennium Student Center, 516-5545
Research Administration, Office of
341 Woods, 516-5897
Residential Life
123 South Campus Residence Hall, 516-6877

ROTC, Army
324 Woods Hall, 516-4872
Social Work, School of
590 Lucas, 516-6385
Sociology, Department of
707 Tower, 516-6366
Sports Information
225 Mark Twain, 516-5660
Student Life, Office of
366 Millennium Student Center, 516-5291
Student Affairs, Vice Chancellor
301 Woods, 516-5211
Student Government Office
375 Millennium Student Center, 516-5105
Theatre, Dance and Media Studies, Department of
201 General Services Bldg., 516-4572
Transportation Studies, Center for
154 University Center, 516-7270
UM-Rolla Engineering Education Center
34 Telecommunity Center, 516-5431
University Communications & Marketing
414 Woods, 516-5851
University Health Services
141 Millennium Student Center, 516-5671
University Meadows
2901 University Meadows Drive, 516-7500
University Relations
407 Woods, 516-5255
Veteran Affairs, Office of
269 Millennium Student Center, 516-5679
Video Instructional Program
303 Lucas, 516-5501
Wellness Resource Center
180 Millennium Student Center, 516-5414
Women's and Gender Studies, Institute for
211 Clark, 516-5581

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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 47 undergraduate programs, 33 master's programs, seven preprofessional programs, 2 education specialists, 14 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, College of Fine Arts and Communication, Graduate School, Pierre Laclede Honors College, College of Nursing, 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 is the academic core of the University of Missouri-St. Louis. In its classes, students engage in creative and critical thinking, learn to appreciate pattern in complexity, reflex on important issues of the past and present, and

hone their ability to communicate effectively orally and in writing. Across the curriculum, the College emphasizes "Learning through Research," an approach in which students actively identify and analyze a variety of intellectual approaches and forms of information.

The campus oldest and largest college, Arts and Sciences takes special pride in its professional faculty of nearly 200, all of whom hold earned Ph.D. degrees or other appropriate terminal degrees. The College offers a wide range of accredited baccalaureate, master's and doctoral degrees and multi-disciplinary certificates through 15 departments, the School of Social Work and the Institute for Women's and Gender Studies.

Anthropology (B.A.)
Biochemistry & Biotechnology (B.S., M.S.)
Biology (B.A., B.S., M.S., Ph.D.)
Chemistry and Biochemistry (B.A., B.S., M.S., Ph.D.)
Criminology and Criminal Justice (B.S., M.A., Ph.D.)
Economics (B.A., B.S., M.A.)
English (B.A., M.A., M.F.A.)
Foreign Languages and Literatures (B.A. in French and B.A. in Spanish)
History (B.A., M.A.)
Liberal Studies (B.L.S.)
Mathematics and Computer Science (B.A., B.S., M.A., M.S., Ph.D.)
Philosophy (B.A., M.A.)
Physics and Astronomy (B.A., B.S., M.A., Ph.D.)
Political Science (B.A., M.A., Ph.D.)
Public Policy and Administration (M.P.P.A.)
Psychology (B.A., M.A., Ph.D.)
Social Work (B.S.W., M.S.W.)
Sociology (B.A., B.S., M.A.)
Women's and Gender Studies (Certificate)

Whether completing general education requirements or pursuing a specific degree, undergraduate students have the opportunity to learn from internationally renowned faculty such as E. Desmond Lee Professor Patricia Parker (Biology), Distinguished Teaching Professor J. Martin Rochester (Political Science), and Curators' Professor Scott Decker (Criminology and Criminal Justice).

Student participation in internships with the university's public and corporate partners paves the way for subsequent employment. Collaborative research by students and faculty similarly expands both intellectual horizons and prospects for graduate study and professional careers.

Alumni of the College of Arts and Sciences include physicians, lawyers, teachers, political leaders, scientists, corporate executives, college and university faculty, psychologists, social workers, and a host of other professionals.

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 two institutions in the state in preparation of educators, the College of Education provides undergraduate and graduate programs to support 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, Dance and Media Studies. 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 that opened in the fall of 2003, provides two world-class venues for performances. In addition, three galleries offer space for display of student and faculty artwork as well as visiting exhibitions.

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 and colleges in the United States providing professional optometric education and clinical experience. Facilities are furnished with equipment and technology for the enhancement of both teaching and research. The college operates the University Eye Center on campus, the Optometric Center of St.

Louis in the city's Central West End, the Harvester Eye Care Center in St. Charles County, 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 curriculum that combines Honors College classes with course work in their major areas

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.

College of Nursing
The College of Nursing 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, the accelerated track, an upper-level option designed for the associate degree or diploma-educated registered nurse or exceptional transfer student 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.

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
Through the Division of Continuing Education & Outreach at UM-St. Louis, the research-based knowledge of our excellent faculty is brought to the citizens of the greater St. Louis metropolitan area at times and places, and in formats, that meet the lifelong learning needs of our adult students. Partnerships with a number of community cultural and educational institutions provide greater access to public higher education and to the resources of our fine campus.

Continuing Education & Outreach provides a wide variety of credit courses and noncredit professional development programs that can help adults keep abreast of new developments in their field, prepare them for a career in a new field of endeavor, or enrich their personal and family life. Courses leading to degree-completion programs are also offered at the St. Louis Community College South County Education and University Center and on the campuses of St. Charles Community College, Jefferson College and Mineral Area College.

Office of International Student and Scholar Services of the Center for International Studies
The Office of International Student and Scholar Services assists international students and scholars with undergraduate and graduate admission, credential and transfer credit evaluations, visa and immigration advising, taxation matters, 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 annually 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 70,000 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 4,611 accountants, 4,761 nurses, and 797 doctors of optometry. With the granting of 18,450 education degrees, the College of Education is the largest educator of teachers in the St. Louis metropolitan area.

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. Veterans who have been out of high school for five or more years should refer to the Veterans and Mature Adults section.

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. Applications are also available via the Internet. Applicants may apply on-line at http://www.umsl.edu/applying.html

• **Application Fee.**
The $35.00 application fee ($40.00 for international students) may be paid by:

- A check or money order made payable to UM-St. Louis
- A credit card by using the on-line application
- A credit card by calling 516-6930
- Cash by appearing in person at the office of the Registrar in 269 Millennium Student Center.

• **High School Transcript and Class Rank.** A transcript must be sent directly from the high school to the UM-St. Louis Office of Admissions. The transcript should indicate class rank and all coursework. Required college aptitude test scores may also be submitted via this transcript or directly from the testing agency.

• **College AptitudeTest.** Freshman admission requires 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 or your high school counselor.
- **Scholastic Aptitude Test** These 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 is 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.

ACT	**SAT Total** Verbal, Math	**High School Class** Percentile Rank
23	1050-1080	48
22	1010-1040	54
21	970-1000	62
20	930-960	69
19	890-920	78
18	840-880	86
17	800-830	94

Applicants who do not meet these criteria may still be admitted, depending on other evidence of likely success and campus enrollment objectives.

These applicants can apply to the Director of Admissions. Additional factors considered for admission 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.

For additional information regarding admission requirements, contact the Office of Admissions at (314) 516-5451 or by E-mail at admissions@umsl.edu.

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 college credit course in the test area. The student must earn a score at or above the 50th percentile to receive credit. Consultation with an adviser is recommended. CLEP tests are given by appointment in the University Assessment Center in room 412, Social Science and Business Building (SSB). 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's 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) test with a minimum score of 2500 (for tests taken after January 1, 2002; minimum score of 250 required for tests taken prior to January 1, 2002

In addition, the following must be presented:

- A completed undergraduate application (available on-line at *www.umsl.edu/applying*)
- A $35 non-refundable application fee ($40 for international students)
- ACT composite score of at least 24 or SAT composite of 1100
- A high school transcript if ACT/SAT scores are present.

Home-Schooled Students. UM-St. Louis welcomes home-schooled students. To be admitted for undergraduate admission, the home-schooled student must present the following:

- A completed Undergraduate Application (available online at *http://www.umsl.edu/applying.html).*
- $35 Application Fee ($40 for international students)
- ACT Composite score of 24 or SAT of 1090

- A transcript of coursework

Veterans and Mature Adults
Applicants 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 Error! Bookmark not defined.
UM-St. Louis welcomes transfer students; 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 $35 application fee ($40 for international students)
- High school transcript (or GED) if the applicant has less than 24 hours of college-level course work.
- 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 earned 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.
UM-St. Louis requires mathematics proficiency beyond the general requirements in the CBHE Statement. Please refer to the General Education section of this bulletin, goal number six for details.

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 applicable 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. Students with MO AA degrees that include a CBHE approved general education core may transfer more than 64 credit hours for lower division courses. Any additional lower division course credits above 64 credit hours must be applicable to the baccalaureate degree or must be a prerequisite for an upper division course in the major. 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.

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 the 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 in order to be admitted to UM-St. Louis.

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 their 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 and Scholar 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 Test of English as a Foreign Language (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 student's accounts. For details contact:

Office of International Student and Scholar Services
261 Student Millennium Center
One University Boulevard
St. Louis, MO 63121-1400

Returning Students. Effective WS2005, returning undergraduate students who are admitted and/or enrolled who did/did not attend will be automatically eligible to register without having to reapply for the period of one academic year.

Students who do not attend for two semesters will be required to complete a returning student application and provide official transcripts from other colleges and universities attended since last enrolled as an UMSL student.

The returning student application is on line at http://www.umsl.edu/admission or by calling the Office of Admissions at (314)-516-5451.

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, or by calling (314) 516-5545. At the end of the session, students must request that their grades be reported by transcript to their respective schools. Financial aid is not available for such students.

Non-Degree-Seeking Students. An individual wishing to enroll in a course but 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. The non-degree application is available on-line at www.umsl.edu/admission, by calling (314) 516-5451, in the office of the Registrar, or in the office of Admissions. Financial aid is not available for such students.

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

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

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.

Former Students
Former students not currently enrolled must submit a reenrollment application see "Returning Students" above.

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 available on line at www.umsl.edu/admission, by calling (314) 516-5451, in the office of the Registrar or in the office of Admissions.

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.

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.*

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.

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. Advising services are available in the University Advising Center in the Millennium Student Center, the College Advising Office located in 303 Lucas or in their major department. Students who have declared majors are encouraged to contact their major departments as soon as possible.

The departments in the College of Arts and Sciences as well as the School of Social Welfare 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 Liberal Studies, 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 of 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, later in the Advising Center or the office of undergraduate student affairs. 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 of 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 artscience@umsl.edu.

College of Business Administration
The College of Business Administration's office of undergraduate academic advising has a staff of professional academic advisors 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 policies and regulations; and graduation requirements. Other matters related to a student's academic matriculation should also be directed to this office.

Transfer students who have been admitted to the College of Business Administration should contact the advising office and plan to meet with an advisor 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 additional 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, secondary education, or physical education settings must apply for admission to the College of Education.
Students who intend to teach in secondary school classrooms may 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.

With either option, pre- and post-degree students must meet university and departmental requirements, as well as those for teacher education in Missouri. 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 APEC at the earliest opportunity. Regular consultation with advisers is essential. The office 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 (314) 516-5937.

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, Dance and Media Studies. 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, the Laumeier Sculpture Park and a variety of other St. Louis cultural institutions.

Students interested in these degrees or in need of preliminary advising may contact the office of undergraduate student affairs at 516-5501 for an appointment or referral to the department in which you are interested.

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.

College of Nursing
The College of Nursing offers the bachelor of science in nursing degree (B.S.N.) for non-RNs through a four-year or accelerated program of study. RNs who are graduates of diploma or associate degree nursing programs complete a junior-senior B.S.N. track (RN to B.S.N.), which avoids repeating previous nursing education. With both options, students must meet university and College of Nursing requirements. The Master of Science in Nursing Degree Program is designed for the nurse who wishes to pursue advanced nursing practice. The College of Nursing's MSN program offers four functional roles: Nurse educator, nurse leader, nurse practitioner and clinical specialist. The MSN with the Nurse Practitioner option and the post MSN program allow students to apply for certifying exams for adult, family, pediatric, or women's health. The Ph.D. program offers post-baccalaureate and post MSN tracks for students who wish to conduct research to improve the health status of high-risk populations, provide leadership to develop policies that promote health, and serve as collaborators and principal investigators on interdisciplinary research teams. 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 and

approval 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 produced, listing the specific courses offered that semester and their meeting times and locations. This *Schedule* is posted on the UM-St. Louis web site: http://www.umsl.edu., and available as follows:

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

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 it 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)

Application of Policy to Freshmen
Freshmen who enrolled at UM-St. Louis or at any other accredited post-secondary institution in fall 2002, and all future freshmen, must complete the requirements of the General Education Plan in order to earn a baccalaureate degree from the University of Missouri-St. Louis. For purposes of this policy, a freshman is defined as any student who has completed less than 24 semester hours of credit* prior to the start of the fall 2002 semester.

**Only credit that is transferable to UM-St. Louis is applicable. For purposes of implementing the general education plan at UM-St. Louis, the phrase "credit that is transferable" shall be interpreted to mean all credit associated with coursework completed with a grade of D- or better at a regionally accredited post-secondary institution (or an approved foreign college or university). Credit associated with military science and developmental/remedial coursework shall be excluded from this understanding of "credit that is transferable".*

Application of Policy to Others
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. However, such students may elect to complete the new General Education Plan described below that became effective in the fall semester of 2002.
**Only credit that is transferable to UM-St. Louis is applicable*

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

KNOWLEDGE GOALS:
Social and Behavioral Sciences Knowledge Goal (min. 3 three-hour courses or 9 hours minimum) [SS]
Humanities and Fine Arts Knowledge Goal (min. 3 three-hour courses or 9 hours minimum) [H]
Mathematics and Life/Natural Sciences (min. 4 three-hour courses or 12 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.
***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:
COMMUNICATING (min. 2 courses or 6 hrs)
MANAGING INFORMATION (min. 1 course or 3 hrs)
VALUING (min. 1 course or 3 hrs)

KNOWLEDGE GOALS:
SOCIAL AND BEHAVIORAL SCIENCES (min. 3 three-hour courses or 9 hr)
HUMANITIES AND FINE ARTS (min. 3 three-hour courses or 9 hrs)
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 1100, 1110 or Honors 1200) and one other course taken from the following list:

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

Department, Course #	Course Title	Additional Goal(s) of the Course
English 1100 or	Freshman Composition*	
English 1110 or	Freshman Composition for International Students*	
Honors 1200	Freshman Composition for Honors Students	

Select a minimum of one course:

Communication 1030	Interpersonal Communication*	
Communication 1040	Introduction to Public Speaking*	
Communication 1050	Introduction to Mass	
Biology 1102	Human Biology	
Chemistry 2223	Quantitative Analysis	
Chemistry 2633 (2 hrs)	Organic Chemistry Laboratory	
English 1120	Literary Types	
English 1130	Topics in Literature	
English 1170	American Literary Masterpieces	
English 1200	Myth	
English 1700	African-American Literature	
English 1710	Native American Literature	
English 2030	Poetry Writing	
English 2040	Short Story Writing	
English 2050	Play Writing	
English 2120	Topics in Writing	
English 2200	Classical Literature in Translation*	
English 2230	Jewish Literature	
English 2240	Literature of the New Testament 5	
English 2250	Literature of the Old Testament	
English 2310	English Literature I	
English 2320	English Literature II	
English 2330	Introduction to Poetry	
English 2350	Introduction to Fiction	
English 2710	American Literature I	
English 2720	American Literature II	
English 2810	Traditional Grammar**	

French 2102	Intermediate French Language and Culture II
French 2180	Readings in French
German 2170	German Composition and Conversation
German 2180	Readings in German
History 1001	American Civilization to 1865***
History 1002	American Civilization 1865 to Present***
History 1004	The History of Women in the United States***
History 1030	The Ancient World
History 1031	Topics in European Civilization to 1715
History 1032	Topics in European Civilization since 1715
History 1051	Latin American Civilization**
History 1052	Mexican Civilization**
History 1061	African Civilization To 1800**
History 1062	African Civilization Since 1800**
History 1063	African Diaspora To 1800**
History 1064	African Diaspora Since 1800**
Honors 1110	Honors Western Traditions: Humanities
Honors 1130	Honors Western Traditions: Social & Behavioral Sciences
Honors 1210	Honors American Traditions-Humanities
Honors 1300	Honors Critical Analysis
Honors 1330	Honors Non-Western Traditions
Honors 2010	Honors Inquiries in the Humanities
Honors 2020	Honors Inquiries in the Fine Arts
Honors 2030	Honors Inquiries in the Social and Behavioral Science.
Honors 2050	Honors Inquiries in Natural Sciences
Media Studies 2218	Public Policy in Telecommunication
Spanish 2171	Spanish Conversation and Pronunciation
Spanish 2172	Spanish Composition
Spanish 2180	Readings in Spanish**
Theatre & Dance 1100	Introduction to Dance
Theatre &Dance 1210	Fundamentals of Acting
Theatre & Dance 1800	Introduction to Theatre
Theatre & Dance 1850	Introduction to Non-Western
Theatre & Dance 2105	Script Analysis
Theatre & Dance 2211	Acting Styles
Theatre & Dance 2230	Aesthetics of Theatrical Styles
Theatre & Dance 2810	History of World Theatre and Drama Through the Restoration

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

Department, Course #	Course Title	Additional Goal(s) of the Course
Computer Science 1010	Introduction to Computers (credit not granted for both CS 1010 and BA 1800)*	
Bus. Ad. 1800	Computers and Information Systems (credit not granted for both BA 1800 and CS 1010)*	
Anthropology 1006	Introduction to Non-Human Primates	
Anthropology 1019	Introduction to Archaeology**	
Anthropology 1033	World Archaeology**	
Astronomy 1001	Cosmic Evolution/Introductory	
Astronomy 1001	Atmospheric Sci. Elementary Meteorology	
Biology 1811	Introduction to Biology I: From Molecules to Organisms	
Biology 1821	Introduction to Biology II: Organisms and the Environment*	

Biology 1202	Environmental Biology
Chemistry 1082	General Chemistry I
Chemistry 1011	Chemistry in the Environment and Everyday Living
Chemistry 1121	Introductory Chemistry II
Chemistry 2223	Quantitative Analysis
Chemistry 2412	Basic Inorganic Chemistry
Chemistry 2622	Organic Chemistry II
Chemistry 2633	Organic Chemistry Laboratory
Chemistry 1052	Chemistry for the Health Professions
Chemistry 1062	Organic and Biochemistry for Health Professions
Chemistry 1091	General Chemistry II
Crim & C J 1200	Foundations of Law (Pol.Sci. 1200)
Economics 2410	The Economics of Women, Men and Work
Economics 2800	History of American Economic Development
English 1100	Freshman Composition
English 1110	Freshman Composition for International Students
Geography 1001	Introduction to Geography
Geology 1001	General Geology
Geology 1002	Historical Geology
Honors 1200	Freshman Symposium**
Honors 1310	Non-Western Traditions
Physics 1011	Basic Physics I
Physics 1012	Basic Physics II
Physics 2111	Physics: Mechanics and Heat
Physics 2112	Physics: Electricity, Magnetism and Optics
Political Science 1500	Introduction to Comparative Politics
Political Science 1200	Foundations of Law (CCJ 1200)
Political Science 1450	Introduction to Labor Studies 4
Political Science 1500	Introduction to Comp. Politics
Political Science 1550	Women and Politics in the Developing World
Political Science 1820	Global Issues
Political Science 1990	The City, (Soc. 1999)
Sociology 1999	The City, (Pol Sci.1990)
Theatre & Dance 2820	The History of World Theatre & Drama from 18th Century to Contemporary Times
Theatre & Dance 2840	History of Dance to the 19th Century
Theatre & Dance 2841	History of Dance from 19th Century to Contemporary Times

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

Department, Course #	Course Title	Additional Goal(s) of the Course
Anthropology 1011	Introduction to Cultural Anthropology**	
Anthropology 1025	World Cultures	
Anthropology 2117	Greek History & Culture**	
Biology 1081	Global Ecology (Pol. Sci. 1850)	
Biology 1202	Environmental Biology	
Crim & C J 1200	Foundations of Law (Pol. Sci. 1200)	
Economics 1000	Introduction to the American Economy	
Economics 1001	Principles of Microeconomics	
Economics 2610	The Economics of Professional Sports	
Economics 2010	The Business Firm: History, Theory and Policy	
English 1120	Literary Types	
English 2200	Classical Literature in Translation	

English 2280	The Contemporary World in Literature**
English 2340	Introduction to Drama
English 1200	Myth
History 1003	African-American History***
Honors 1230	American Traditions***
Honors 1330	Non-Western Traditions—Social Sciences
Music History 1001	Introduction to Music
Music History 1080	Introduction to Irish Traditional Music
Music History 1090	Non-Western Music I
Music History 1100	Non-Western Music II
Music History 1110	Introduction to Irish Traditional Music in North America
Music Th & Comp 1190	Fundamentals of Music
Music Th & Comp 1301	Theory of Music I
Music Th & Comp 1311	Theory of Music II
Music Th & Comp 2301	Theory of Music III
Music Th & Comp 2311	Theory of Music IV**
Philosophy 1090	Telecourse: Philosophy and Other Disciplines
Philosophy 1091	Telecourse: Significant Figures in Philosophy
Philosophy 1110	Western Philosophy I
Philosophy 1111	Western Philosophy II
Philosophy 1120	Asian Philosophy**
Philosophy 1125	Islamic Philosophy**
Philosophy 1130	Approaches to Ethics
Philosophy 1150	Major Questions in Philosophy
Philosophy 1160	Logic and Language
Philosophy 1185	Philosophy of Religion
Philosophy 2252	Philosophical Foundations of Criminal Justice (CCJ 2252)
Philosophy 2253	Philosophy and Feminism
Philosophy 2254	Business Ethics
Philosophy 2256	Bioethics
Philosophy 2258	Medicine, Values and Society
Philosophy 2280	Minds, Brains and Machines
Political Science 1100	Introduction to American Politics***
Political Science 1200	Foundations of Law (CCJ 1200)
Political Science 1500	Introduction to Comparative Politics
Political Science 1550	Women and Politics in the Developing World
Political Science 1850	Global Ecology (Bio. 1081)
Political Science 1990	The City, Soc.1999
Sociology 1010	Introduction to Sociology
Sociology 1040	Social Problems
Sociology 1999	The City (Pol. Sci.1990)

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

Department, Course #	Course Title	Additional Goals of the Course
Anthropology 1006	Introduction to Non-Human Primates	
Anthropology 1011	Introduction to Cultural Anthropology**	
Anthropology 1019	Introduction to Archaeology **	
Anthropology 1025	World Cultures**	
Anthropology 1033	World Archaeology**	
Anthropology 2117	Greek History and Culture (same as History 2117)	
Biology 1081	Global Ecology	
Communication 1050	Introduction to Mass Media	
Criminology 1150	Violence in America	
Crim & C J 1200	Foundations of Law (Pol. Sci. 1200)	
Economics 1000	Introduction to the American Economy	
Economics 1001	Principles of Microeconomics	
Economics 1002	Principles of Macroeconomics	
Economics 1500	Entertainment Economics: The Movie Industry	
Economics 1510	Entertainment Economics: The Popular Music Industry	
Economics 2010	The Business Firm: History, Theory and Policy	
Economics 2410	The Economics of Women, Men and Work	
Economics 2610	The Economics of Professional Sports	
Economics 2800	History of American Economic Development	
Geography 1001	Introduction to Geography	
History 1001	American Civilization to 1865***	
History 1002	American Civilization 1865-Present ***	
History 1003	African-American History***	
History 1004	The History of Women in the United States***	
History 1030	The Ancient World	
History 1031	Topics in European Civilization to 1715	
History 1032	Topics in European Civilization since 1715	
History 1041	East Asian Civilization to 1800**	
History 1042	East Asian Civilization from 1800**	
History 1051	Latin American Civilization**	
History 1052	Mexican Civilization**	
History 1061	African Civilization To 1800**	
History 1062	African Civilization Since 1800**	
History 1063	African Diaspora To 1800**	
History 1064	African Diaspora Since 1800**	
Honors 1200	Freshman Symposium	
Honors 1130	Western Traditions--Social Science	
Honors 1230	American Traditions***	
Honors 2030	Honors Inquiries in Social and Behavioral Sciences	
Honors 1330	Non-Western Traditions--Social Science	
Political Science 1100	Introduction to American Politics***	
Political Science 1200	Foundations of Law (CCJ 1200)	
Political Science 1450	Introduction to Labor Studies	
Political Science 1500	Introduction to Comparative Politics	
Political Science 1820	Global Issues	
Political Science 1850	Global Ecology (Bio. 1081)	
Political Science 1990	The City, Soc. 1999	
Political Science 1550	Women and Politics in the Developing World	
Psychology 1003	General Psychology	
Psychology 1268	Human Growth and Behavior	
Sociology 1010	Introduction to Sociology	
Sociology 1040	Social Problems	
Sociology 1999	The City, Pol. Sci.1990	

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

Department, Course #	Course Title	Additional Goals of the Course
Art History 1100	Introduction to Western Art	
Art History 1105	Introduction to the Arts of Africa	
Art History 1108	Introduction to Arts of Asia	
Art History 2211	Art and Archeology of the Ancient World	
Art History 2235	European Art and Architecture 1300-1800	
Art History 2255	Modern Art**	
English 1120	Literary Types	
English 1130	Topics in Literature	
English 1170	American Literary Masterpieces	
English 1200	Myth	
English 1700	African-American Literature	
English 1710	Native American Literature	
English 2030	Poetry Writing	
English 2040	Short Story Writing	
English 2050	Play Writing	
English 2120	Topics in Writing	
English 2200	Classical Literature in Translation	
English 2230	Jewish Literature	
English 2240	Literature of the New Testament	
English 2250	Literature of the Old Testament	
English 2280	The Contemporary World in Literature	
English 2310	English Literature I	
English 2320	English Literature II	
English 2330	Introduction to Poetry	
English 2340	Introduction to Drama	
English 2350	Introduction to Fiction	
English 2710	American Literature I	
English 2720	American Literature II	
French 2102	Intermediate French Language and Culture II	
French 2180	Readings in French	
German 2170	German Conversation and Composition	
German 2180	Readings in German	
Honors 1310	Non-Western Traditions in Humanities**	
Honors 1300	Critical Analysis	
Honors 1110	Western Traditions	
Honors 1210	American Traditions in Humanities	
Honors 2010	Inquiries in the Humanities	
Honors 2020	Inquiries in the Fine and Performing Arts	
Music History 1001	Introduction to Music	
Music History 1060	Introduction to African-American Music	
Music History 1070	Introduction to Jazz	
Music History 1080	Introduction to Irish Traditional Music	
Music History 1090	Non-Western Music I	
Music History 1100	Non-Western Music II	
Music History 1110	Introduction to Irish Traditional Music in North America	
Music Th & Comp 1190	Fundamentals of Music	
Music Th & Comp 1301	Theory of Music I	
Music Th & Comp 1311	Theory of Music II	
Music Th & Comp 2301	Theory of Music III	
Music Th & Comp 2311	Theory of Music IV**	
Philosophy 1090	Telecourse: Philosophy and Other Disciplines	

Philosophy 1091	Telecourse: Significant Figures in Philosophy
Philosophy 1110	Western Philosophy I
Philosophy 1111	Western Philosophy II
Philosophy 1120	Asian Philosophy
Philosophy 1125	Islamic Philosophy
Philosophy 1130	Approaches to Ethics
Philosophy 1150	Major Questions in Philosophy
Philosophy 1160	Logic and Language
Philosophy 1185	Philosophy of Religion
Philosophy 2252	Philosophical Foundations in Criminal Justice (CCJ 2252)
Philosophy 2253	Philosophy and Feminism
Philosophy 2254	Business Ethics
Philosophy 2256	Bioethics
Philosophy 2258	Medicine, Values and Society
Philosophy 2280	Minds, Brains and Machines
Spanish 2171	Spanish Conversation and Pronunciation
Spanish 2172	Spanish Composition
Spanish 2180	Readings in Spanish
Theatre &Dance 1100	Introduction to Dance
Theatre &Dance 1210	Fundamentals of Acting
Theatre &Dance 1800	Introduction to Theatre 1
Theatre &Dance 1850	Introduction to Non-Western Theatre
Theatre &Dance 2105	Script Analysis
Theatre &Dance 2211	Acting Styles
Theatre &Dance 2230	Aesthetics of Theatrical Styles
Theatre &Dance 2810	History of World Theatre and Drama Through the Restoration
Theatre &Dance 2820	The History of World Theatre & Drama from 18th Century to Contemporary Times
Theatre &Dance 2840	History of Dance to the 19th Century
Theatre &Dance 2841	Hstory of Dance from 19th Century to Contemporary Times

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

Note: All students are required to earn a C- or better in a college-credit mathematics course (Math 1020 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.

Department, Course #	**Course Title**	**Additional Goal(s) of theCourse**
Mathematics 1020	Contemporary Mathematics	
Mathematics 1030	College Algebra	
Mathematics 1035 (2 hrs)	Trigonometry	
Mathematics 1100	Basic Calculus	
Mathematics 1102	Finite Mathematics	
Mathematics 1105	Basic Probability and Statistics	
Mathematics 1150	Structure of Mathematical Systems I	
Mathematics 1800 (5 hrs)	Analytic Geometry and Calculus I	
Honors 2040	Inquiries in Math and Computer Science	
Mathematics 2510	Structure of Mathematical Systems II	
Astronomy 1001 (4 hrs)	Cosmic Evolution/ Introductory Astronomy	

Astronomy 1011	Planets and Life in the Universe
Astronomy 1012	The Violent Universe and the New Astronomy
Astronomy 1022 (2 hrs)	Practical Astronomy
Astronomy 1050	Introduction to Astronomy I
Astronomy 1051	Introduction to Astronomy II
Astronomy 1121	The Search for Extraterrestrial Life
Atmospheric Sci.1001 (4 hrs)	Elementary Meteorology
Biology 1012	General Biology
Biology 1013 (2 hrs)	General Biology Laboratory
Biology 1081	Global Ecology (Pol. Sci. 1850)
Biology 1102	Human Biology
Biology 1131 (4 hrs)	Human Anatomy and Physiology I
Biology 1141 (4 hrs)	Human Anatomy and Physiology II
Biology 1162	General Microbiology
Biology 1202	Environmental Biology
Biology 1811 (5 hrs)	Introductory Biology I: From Molecules to Organisms
Biology 1821 (5 hrs)	Introductory Biology II: Organisms and the Environment
Chemistry 1011	Chemistry in the Environment and Everyday Living
Chemistry 1052 (4 hrs)	Chemistry for Health Professions
Chemistry 1062 (2 hrs)	Organic and Biochemistry for Health Professions
Chemistry 1082	General Chemistry I
Chemistry 1091	General Chemistry II
Chemistry 1111 (5 hrs)	Introductory Chemistry I
Chemistry 1121 (5 hrs)	Introductory Chemistry II
Chemistry 2223	Quantitative Analysis
Chemistry 2412	Basic Inorganic Chemistry
Chemistry 2621	Organic Chemistry
Chemistry 2622	Organic Chemistry II
Chemistry 2633 (2 hrs)	Organic Chemistry Laboratory
Geology 1001 (4 hrs)	General Geology
Geology 1002 (4 hrs)	Historical Geology
Honors 2050	Inquiries in the Natural Sciences
Physics 1001	How Things Work
Physics 1011 (4 hrs)	Basic Physics I
Physics 1012 (4 hrs)	Basic Physics II
Physics 2111 (5 hrs)	Physics: Mechanics and Heat
Physics 2112 (5 hrs)	Physics: Electricity, Magnetism and Optics

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 2000 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. Proficiency can be obtained in either of the following ways.

Completing, with a grade of C- or better, a college
credit mathematics course. Scoring 26 or higher on the Missouri Math Placement Test (MMPT). The MMPT covers mathematics through the college algebra level.

*The first two college credit mathematics courses that the university offers which satisfy mathematics proficiency are Math 1020: Contemporary Mathematics and Math 1030: College Algebra. Math 1020 is designed as a terminal mathematics course for students who do not plan to take calculus. Math 1030 is required for all students who want to go on to calculus. The prerequisite for enrolling in Math 1020 or Math 1030 is a satisfactory score on the math placement test. (effective January, 2005) **This test must be taken not earlier than 6 months before enrolling in the course.**

Study guides for the UM-St. Louis Math Placement Test and the MMPT (as well as the UM-St. Louis Trigonometry Test, which is not needed for minimum math proficiency) are available on the University's home page, under math placement information/math practice test, as well as at the circulation desk of the Thomas Jefferson Library (file number 991). Students will need to make their own copies. Math placement test dates are published in the *Schedule of Courses*.

Advanced Expository Writing
Effective fall semester 1985, students must also complete English 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 1100, Introduction to Criminology and Criminal Justice (Criminology majors may not use this course to satisfy the state requirement.)
CCJ 2226, Law and the Individual
Hist 1001, American Civilization I
Hist 1002, American Civilization II
Hist 1003, African-American History
Hist 1004, The History of Women in the United States
Hist 2007, The History of Missouri
Hist 3002, United States History: Revolution and the New Nation, 1763 to 1815
Hist 3041, Topics in American Constitutional History
PolSci 1100, Introduction to American Politics
PolSci 2260, Law and the Individual
PolSci 2280, Judicial Politics, Process and Policy
PolSci 2290, Women and the Law
PolSci 2300, State Politics
PolSci 2320, African-Americans and the Political System
PolSci 2350, Introduction to Urban Politics
PolSci 2380, Women in U. S. Politics
PolSci 2400, Public Administration
PolSci 2420, Introduction to Public Policy
PolSci 3200, Constitutional Law
PolSci 3210, Civil Liberties
PolSci 3260, Judicial Decision Making
PolSci 3300, The American Presidency
PolSci 3330, Introduction to Political Behavior
PolSci 3331, Congressional Politics
PolSci 3350, Political Parties and Elections
PolSci 3370, Mock Constitutional Convention
PolSci 3400, Bureaucratic Politics
PolSci 3450, Urban Administration
PolSci 4470, Urban Planning and Politics

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 1011, Introduction to Cultural Anthropology
Anth 1019, Introduction to Archaeology
Anth 1021, The Body in Culture
Anth 1025, World Cultures
Anth 1033, World Archaeology
Anth 1041, Sex and Gender Across Cultures
Anth 1051, Anthropology of Sport
Anth 1091, Introductory Topics in Anthropology
Anth 2110, Cultures of Asia
Anth 2111, Cultures of East Asia
Anth 2113, Cultures of South Asia
Anth 2114, Cultures of the Near and Middle East
Anth 2120, Native Peoples of North America
Anth 2123, Cultures of Oceania
Anth 2124, Cultures of Africa
Anth 2131, Archaeology of Missouri
Anth 2132, Archaeology of North America
Anth 2134, Archaeology of the Inca, Aztec, and Maya
Anth 2135, Old World Archeology
Anth 2136, Archaeology of East Asia
Anth 2137, Archaeology of Africa
Anth 2138, African-American Archaeology
Anth 2173, Archaeology and Cultures of the Biblical World
Anth 2191, Special Topics in Non-Western Cultures
Anth 3235, Women in Subsaharan Africa: A Contemporary Perspective
Anth 3238, Culture and Business in East Asia
Art 1103, Pre-columbian Art of Mexico and Central America
Art 1104, Indigenous Arts of North America
Art 1105, Introduction to the Arts of Africa
Art 1108, Introduction to Asian Art
Art 1109, The Arts of China
Art 1110, The Arts of Japan
Art 4405, Topics in African Art
Art 4408, Topics in Asian Art
English 1710, Native American Literature
English 2280, The Contemporary World in Literature
History 1041, East Asian Civilization
History 1042, East Asian Civilization
History 1051, Latin American Civilization
History 1052, Mexican Civilization
History 1061, African Civilization To 1800
History 1062, African Civilization Since 1800
History 1063, The African Diaspora to 1800
History 1064, The African Diaspora since 1800
History 3032, History of Women in Comparative Cultures
History 3101, Modern Japan: 1850 to the present
History 3102, Modern China: 1800 to the Present
History 3103, Modern History of the Pacific Rim
History 3201, History of Latin America: To 1808
History 3202, History of Latin America since 1808
History 3301, West Africa to 1800
History 3302, West Africa Since 1800
History 3303, African Diaspora to 1800
History 3304, African Diaspora Since 1800
Music 1090, Non-Western Music I
Music 1100, Non-Western Music II
Phil 1120, Asian Philosophy
Phil 1125, Islamic Philosophy
PolSci 1500, Introduction to Comparative Politics
PolSci 1550, Women and Politics in the Developing World
PolSci 2520, Middle Eastern Politics
PolSci 2530, Political Systems of South America
PolSci 2540, Political Systems of Mexico, Central America, and the Caribbean
PolSci 2550, East Asian Politics
PolSci 2580, African Politics
Soc work 2330 Asians in Migration
Soc 3245, Sociology of South Africa
Th& Dance 1850, Introduction to Non-Western Theatre

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

Graduate Study

The Graduate Faculty sets Graduate School policies in the Bulletin. Students should be aware that their programs might create rules and policies that are above these minimum university-wide requirements.

Admissions
The University of Missouri-St. Louis admits qualified individuals to study for graduate degrees and certificates. Students with a bachelor's degree or the equivalent from an accredited college or university may apply for admission to the Graduate School. Applicants may be denied admission if (a) they do not meet admission standards, (b) there are no available openings, or (c) applications are incomplete at the time of the decision.

To receive graduate credit at the University of Missouri-St. Louis students must have been admitted to the Graduate School as Degree-seeking, Graduate Certificate or Non-Degree seeking student.

Degree-Seeking or Graduate Certificate Students
Applicants for a degree or graduate certificate program at the University of Missouri-St. Louis submit an application, official transcript documenting the baccalaureate degree, scores from examinations required by the program, and other evidence of academic and professional preparation required by the program. Such evidence may include standardized test results, letters of recommendation, transcripts of all academic work attempted, and writing samples.

When there are openings for new students, applicants are normally admitted given official evidence of (a) a baccalaureate or advanced degree from an accredited institution of higher education, (b) an undergraduate grade point average (G.P.A.) and major field G.P.A. of 2.75 or above, (c) an acceptable score on each requisite examination, and (d) satisfactory additional materials required by the particular program. The dean of the Graduate School may approve applications, given a positive recommendation from the unit.

Students who are unable to provide all materials required for admission may be admitted provisionally. An approved provisional student may enroll for one semester or summer term only. The courses taken provisionally will apply in the regular way to a degree or certificate program. When all admission materials have been received, the unit may recommend regular or restricted admission or denial to the dean of the Graduate School.

Because admission to doctoral studies is limited to those of demonstrably superior academic ability, doctoral students normally are not admitted as restricted.

Non-Degree-Seeking Student
Students may apply for status as Non-Degree-seeking graduate students if they are visiting students, they do not intend to pursue a degree, or they want to participate in graduate workshops or institutes. Applicants must provide an official transcript showing completion of a baccalaureate or higher degree, with a G.P.A. of 2.5 or greater.

The dean of the Graduate School admits Non-Degree-seeking students only upon recommendation of the unit.

A Non-Degree student must maintain a G.P.A. of at least 3.00. A Non-Degree student wishing to take more than nine hours may be allowed to do so contingent upon departmental recommendation.

Students wishing to change from Non-Degree to Degree-seeking must submit a new graduate application for review and approval by the unit and the dean of the Graduate School.

Course work completed by Non-Degree students is not regarded as work toward a degree program. Therefore, Non-Degree students are not eligible for federal financial aid. The maximum hours of Non-Degree status work that can be applied to a degree program is nine semester hours. No credits taken as Non-Degree status may count as part of the residence requirement for a degree.

Since Education Certification students take courses for state Department of Education certification, they do not need departmental approval to take more than nine hours. However, all other conditions regarding admission and registration that apply to Non-Degree students apply to Education Certification students.

Traveling Scholars and Inter-University Graduate Exchange Students
There are two avenues for students to take graduate courses at UM-St. Louis without apply for admission
(1) Traveling Scholars are graduate students at one of the other University of Missouri (UM) campuses.
(2) Inter-University Graduate Exchange students are Washington University and St. Louis University students who enroll on the home campus for UM-St. Louis courses not offered on their own campus.

Degree-seeking graduate students at the UM-St. Louis campus may also participate in these programs, if their requests are approved by their advisors and the Graduate School.

Unclassified Students
Students who are not qualified for admission to the Graduate School may be considered for undergraduate admission to UM-St. Louis as Unclassified Students.

Unclassified Students are considered Post-baccalaureate, are not admitted to the Graduate School, may not take graduate-level courses, and do not receive graduate credit. Credits earned by an Unclassified Student may not later be considered as graduate credits should the student subsequently be admitted to the Graduate School.

Enrollment in Off-Campus and Continuing Education Courses
Students who have been admitted to the Graduate School may enroll in off-campus graduate courses without further application.

Students with a baccalaureate degree who have not been admitted to the Graduate School must be approved for admission as a Non-Degree graduate student to take Continuing Education courses for graduate credit.

Admission of International Students
International students must meet the requirements for admission to the Graduate School. In addition, international students whose native language is not English and who have spent less than two of the last three years in an English-speaking country are required to submit scores from an internationally accepted standardized examination before a decision is made on admission.

Teaching assistantships will be awarded only to students with demonstrated oral English proficiency.

When it is not possible for a student to take the required examination for reasons beyond personal convenience, the unit to which the student has applied may develop alternate ways for that particular student to demonstrate English language competence prior to admission. The Graduate Dean must approve such alternative metrics.

Applicants from other countries shall provide a summary of their educational experience as a basis of comparison of their backgrounds with those of U.S. applicants. They shall also provide a statement of their financial situation and of the anticipated form of support for the period of graduate study.

Enrollment
Students who have been admitted to the Graduate School may enroll in classes in any term within one calendar year after admission.

To remain in good standing, students shall enroll for at least one term each calendar year. Students not meeting this enrollment requirement will become inactive and be required to reapply. If students reapply and are readmitted, they will be subject to all regulations in effect at the time of readmission.

After they achieve candidacy, Doctoral students must enroll each fall and spring semester until the degree is completed.

International students on student visas must enroll fulltime for each fall and spring semester.

Fulltime Study
The minimal fulltime course load is nine credit hours for a regular semester and/or five credit hours during the eight-week summer session.

Graduate Equivalent Hours
In calculating credit hours for full-time enrollment, students may seek approval for the following semester hour equivalents:
1.) Three equivalency hours for holding a 0.5 FTE Graduate Teaching Assistantship or Graduate Research Assistantship; up to two equivalency hours for appointments between 0.25 and 0.49 FTE.
2.) Three equivalency hours in the semester the student is preparing for comprehensive examinations. This semester hour equivalency is allowed for a maximum of two semesters.
3.) Eight equivalency hours after achieving candidacy. This semester hour equivalency is allowed for a maximum of eight semesters.
4.) Participation in approved required out-of-class experiences in specific programs. Please see your advisor for the approved list.

Overloads
During the regular semester, students may not enroll in more than 12 hours. Normally no more than three credit hours may be taken in any four-week period.

Heavier than normal loads may be permitted by the Graduate Dean, upon recommendation by the unit, for a) students whose cumulative UM-St. Louis G.P.A. is substantially above the program average; and b) students in good academic standing for whom an overload of one course will permit them to graduate during the term in which the overload is taken.

Degree Program Plans
It is expected that graduate students will consult regularly with their advisors to plan a course of study that ensures timely completion of the requirements.

At least half of the credits for both master's and doctoral degree plans must be from 5000-level courses and above.

Within the major department, students normally may not take a 3000-level course for graduate credit. However, outside the department, a 3000-level course may be taken for graduate credit with the approval of the students' advisors. Advisors must seek approval from the instructor, who may assign additional work commensurate with each student's graduate status.

Courses numbered from 0 to 2999 may not be taken for graduate credit.

No course applied to an undergraduate degree may be allowed in that student's graduate degree.

Credit for Courses Taken Prior to Enrolling in a Graduate Program at UM-St. Louis
Transfer credit shall be granted only for approved graduate courses for which a grade of at least B-, or equivalent, was achieved from an accredited institution.

Degree credit may be allowed for up to three credit hours for institutes, workshops, clinics, and Continuing Education courses only if offered by an appropriately accredited institution of higher education. Only such courses that award a letter grade may be applied to a graduate degree.

Students may transfer up to 18 hours of work on a Graduate Certificate Program Plan to a Master's or Doctoral Program Plan, if the unit granting the degree approves the transfer.

Credit for Courses Taken at Other Universities After Enrolling in a Graduate Program at UM-St. Louis
Graduate students admitted to UM-St. Louis must petition in advance to take courses at another institution and apply the credit toward a graduate degree at UM-St. Louis.

With prior approval, regularly admitted graduate students are permitted to take a course not offered by UM-St.Louis at Washington University, St. Louis University, or Southern Illinois University-Edwardsville.

Time Limitation
The maximum time allowed for completion of a master's degree is six years after the first course enrollment. The maximum time allowed for completion of a doctoral degree is eight years after the first course enrollment. Graduate work completed outside these time periods may not be included in the degree program except under extraordinary circumstances and then only after petition to and approval by the dean of the Graduate School. An exception to the time limitation may be approved in advance with an authorized leave of absence.

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 advisors, students shall define the program modifications that the leave of absence requires. Requests shall indicate the reason for leaving and the expected date of return to the university. Approval of the dean of the Graduate School is required.

The leave of absence is designed to suspend the requirement for continuous enrollment. It does not affect the maximum time limitation set for a degree program unless a specific exception is approved.

Undergraduate Enrollment in 5000-Level Courses
Under special circumstances Undergraduate students in good standing at UM-St. Louis may enroll in 5000-level courses for undergraduate credit. Approvals from the advisor, department chairperson, academic dean, and dean of the Graduate School are required. In rare cases, students subsequently admitted to the Graduate School may petition for graduate credit for 5000-level courses that they took as undergraduates, as long as those courses were not applied to their undergraduate degrees.

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.

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
Grades
Faculty teaching graduate courses have complete discretion in assigning grades.

Point assignments for grades are as follows;
A = 4.0
A- = 3.7
B+ = 3.3
B = 3.0
B- = 2.7
C+ = 2.3
C = 2.0
C- = 1.7
F = 0
EX = Excused
DL = Delayed
IP = In Progress

The Graduate School does not recognize a D grade for a course carrying graduate credit. Therefore, grades lower than C- are recorded as F. The satisfactory/unsatisfactory (S/U) option, which is an option for undergraduate students, is not available in any courses for graduate credit.

Students who stop attending classes without officially dropping courses receive grades of F.

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.

Delayed Grades
Delayed grades may be given when a student's work is of passing quality but is incomplete because of circumstances beyond the student's control. Although delayed grades do not affect a graduate student's grade point average, they are an important factor in evaluating academic progress. Delayed grades must be removed within two regular semesters after the time recorded or they automatically become F grades. In such cases, course instructors may subsequently change F grades to other grades on their progress in a sequential course and indicate that a grade will be assigned at the end of the sequence.

In-Progress Grades
When a course extends for more than one term and the student's performance is deferred until the end of the final term, provisional grades of In-Progress may be assigned in the intervening terms. The In-Progress grade represents progress in a sequential course and indicates that a grade will be assigned at the end of the sequence. In-Progress grades do not count toward earned hours. No credit is awarded or grade points assigned until the sequence is completed and a permanent grade is entered replacing the In-Progress grade(s).

In-Progress grades maybe given in thesis or dissertation research. Additionally, the Graduate Council my approve the In-Progress grade for specific internships, practica, or project courses that allow at least six months for completion. In no case will an In-Progress grade be given for other graduate research or internship experiences. Instead, students will be given a Delayed grade if work is not completed during the semester that the course is taken.

In-Progress grades are left on the student's record until the committee and dean of the Graduate School accepts the thesis or dissertation and the research advisor or internship director submits the final regular grade. At that time, the grade point average will be calculated to award the same grade for all hours taken in the In-Progress grade.

In the event that the full sequence is not completed as scheduled, the Registrar shall replace the In-Progress grade with the Delayed grade when the instructor has no basis for assigning a grade for the term(s) completed.

Graduate Grade Appeals
In case of disputes regarding grades, graduate students shall follow the university Grade Appeal Process.

Grade Point Average (GPA)
UM-St. Louis calculates three types of G.P.A. At the end of each semester, the term G.P.A. is calculated on the courses attempted that semester. The cumulative GPA on the transcript includes all courses taken at UM-St. Louis for graduate credit figure, including courses that may not be a part of the degree program. The degree program GPA includes only the grades of those courses that are part of the degree program. The degree program GPA must be at least 3.0 for a student to receive a graduate degree.

Any course work transferred from other universities, including other UM campuses, will not be included in any GPA calculation.

Probation
Failure to make adequate progress jeopardizes a student's potential to complete the degree and their financial aid. To provide students notice of inadequate progress at the end of each semester, graduate students with a cumulative GPA below 3.0 in a minimum of nine credit hours are placed on probation. A program may also place a student on probation if faculty regards the student's progress as unsatisfactory. The Graduate School will inform students of their probation by letter, with copies sent to the graduate director of the program, the Graduate Admissions Office and Financial Aid.

If at the end of the probationary semester the cumulative GPA is at least 3.0, the probationary status is removed. A probationary student who fails to raise the cumulative GPA to 3.0 may, on the recommendation of the program, be allowed a second probationary semester. A student is subject to dismissal upon failure to raise the cumulative GPA to 3.0 by the end of the second probationary semester, or at any time a semester or cumulative GPA falls below 3.0.

Dismissal
A student who is on probation for more than two semesters during his/her program of study will be dismissed, unless the dean of the Graduate School approves an exception request for continuation from the advisor and/or graduate director. Upon recommendation of the unit, the Graduate School may dismiss any graduate student who does not make adequate progress. The Graduate School is responsible for sending dismissal letters to students, with copies sent to the graduate advisor, the graduate director of the program, the Graduate Admissions office, and the Financial Aid Office.

Master's Degree Requirements

Admission
Each master's degree program determines any eligibility standards beyond the minimum for admission to the Graduate School.

Enrollment
All master's degree students shall be enrolled for credit for access to university resources, including advisement, data gathering, or examinations.

Full-time status for all graduate students is defined as at least nine credit hours of course work. Individual units may require higher enrollments.

Credit Requirements
A minimum of 30 semester hours of graduate credit is required for all master's degree programs. Units may require a greater number of hours for their programs.

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

Time Limitation
All courses included in a master's degree program, whether taken at UM-St. Louis or at another institution, shall have been completed within six years after enrollment in the first course.

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 unit's consent, as long as the credits fall within the time limitation set for master's degrees. If the master's degree is in a different unit 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. Multi-disciplinary programs may seek programmatic exceptions to this limit when the program undergoes the approval process.

Dual Master's Degrees
With approval of the unit and 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 degree are not permitted.

With approval of the units involved and the Graduate School, students may simultaneously pursue two master's degrees under the following conditions:

(a) No more than one-third of the credit hours required by either program may be applied to both programs;
(b) Students must obtain approval of both units before completing 12 hours in either program.

Multi-disciplinary programs may seek programmatic exceptions to the one-third limit when the program undergoes the approval process by addressing specific allowable transfers between those two degree programs.

Master's Degree for Doctoral Students
Doctoral students may receive a master's degree in their unit for work they have completed toward to a doctoral degree. The unit establishes the requirements for such a master's degree. However, the requirements should, in principle, be similar to those for master's degrees offered by the unit.

Doctoral students may also receive a master's degree for work they have completed toward to a doctoral degree in another unit provided (a) they apply no more than two-thirds of the master's degree courses to their doctoral degree program; (b) they have been admitted to the master's degree program; and (c) they have obtained the approval of the advisors from both programs and from the Graduate School. Credit from the master's degree must constitute less than half the total credits required for the doctorate.

Multi-disciplinary programs may seek programmatic exceptions to these limits when the program undergoes the approval process.

Filing the Degree Program
A master's degree student enrolled shall file an approved program plan with the Graduate School before completing the first two-thirds of the credit hours required in the program. Students may petition the dean of the Graduate

School to change the degree program after it has been filed.

Comprehensive Examination, Scholarly Paper, or Exit Project
Each unit requiring a comprehensive examination for the master's degree informs the Graduate School of (a) the number of times the unit will allow its students to take a comprehensive examination, and (b) the period of time that the unit will allow between the first and final attempt to pass the examination.

Units recommend Graduate Faculty members to serve on committees for capstone projects. The Graduate Dean shall review and may appoint the committee.

Master's Thesis
Units recommend Graduate Faculty members to serve on committees for capstone projects. The Graduate Dean shall review and may appoint the committee.

Master's degree students who write a thesis must submit to the dean of the Graduate School one copy of the thesis by the posted university deadline, normally six weeks before the end of the term in which graduation is sought. The chairperson of the thesis committee is responsible for verifying that the final draft of the thesis is acceptable to the Graduate Dean and the thesis committee.

Students disseminate the thesis according to current Graduate School procedures.

Application for Master's Degree
To receive the master's degree, students who have met all degree requirements must apply for graduation by the end of the fourth week of classes during the fall or spring term or by the first day of the eight-week session during the summer term.

Doctoral Degree Requirements

Admission
Each doctoral degree program may determine eligibility standards beyond the minimum for admission to the Graduate School.

Credit Requirements
A minimum of 60 semester hours of graduate credit is required for every doctoral degree program. Units may require a greater number of hours for their programs.

Enrollment
Full-time status is defined as nine credit hours per semester. Units may require higher enrollments than this. After students achieve candidacy and complete the residence requirement, they must remain enrolled during fall and spring semesters until the degree is completed. Failure to register in any regular semester will result in termination from the Graduate School. 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, and will be required to enroll for at least one credit hour in each semester since their last enrollment.

When doctoral students are enrolled for research credit, the credit amount may vary, but the student must register for all work required, and the credit total may exceed the minimum requirements.

Classification of Doctoral Students
There are two stages in a student's doctoral degree work:

(1) A pre-candidate is a student who has requirements to fulfill in addition to the dissertation, including course work, language requirements, and/or comprehensive examinations.

(2) A candidate is a student who has met all degree requirements except the completion of the dissertation.

Time Limitation
The maximum amount of time allowed for completion of a Doctoral degree will be eight years after the first course enrollment.

The maximum of 12 hours of graduate credit completed as a post-master's degree student prior to admission to a doctoral program may apply toward a doctoral degree. Inclusion of such course work is subject to unit 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 approved by the Graduate Dean prior to filing the program.

When doctoral students have earned a master's degree at any institution, appropriate credits may be applied toward meeting the requirement for the doctoral degree, subject to unit approval. Such credits shall constitute less than half of the total credits required for the doctorate. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, no more than 44 credits 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.

Residence Requirement
The majority of credits used to satisfy requirements for a doctoral degree must be completed in residence at UM-St. Louis. The residence requirement may be satisfied with dissertation credit hours, graduate institutes, and credit courses taken through Continuing Education, as well as regular courses.

Students who enter the Ed.D. or Ph.D. in Education degree programs with an Education Specialist (Ed.S.) degree from an accredited university, or with an Advanced Certificate

approved by the Missouri Department of Elementary and Secondary Education, may satisfy the residence requirement by completing one-third of the required credits at UM-St. Louis.

Residency normally requires that doctoral students successfully complete a minimum of 15 hours over two consecutive terms, which may include summer. The dean of the Graduate School may grant exceptions upon recommendation by the program.

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

The Comprehensive Examination Committee will consist of no fewer than three members of the UM-St. Louis graduate faculty appointed by the Graduate Dean upon recommendation of the unit.

An oral examination may not substitute for the standard written portion.

Advisors
Upon entering the program, each doctoral student will have an assigned program advisor who is a member of the Graduate Faculty. As early as possible in a doctoral student's program, but no later than when the student achieves candidacy, the unit will recommend, in consultation with the student, a doctoral dissertation advisor.

Application for Candidacy
Doctoral students may apply for candidacy after passing all required comprehensive and language examinations, written or oral, and successfully completing all course work.

Doctoral Dissertation Committee
The Doctoral Dissertation Committee consists of at least four members of the Graduate Faculty who can contribute their expertise to the dissertation study: the committee chair, and at least one other member from the unit. A recognized scholar from outside the university may serve as a member upon the recommendation of the unit and approval of the Graduate Dean. The Graduate Dean reviews and may approve the committee membership and changes in the committee membership.

Dissertation Proposal
Before a student may conduct substantial research for the dissertation committee may approve a proposal after a formal defense. The student submits the approved proposal for review and approval by the dean of the Graduate School. An approved dissertation proposal in no way implies a contract between the university and the student. Depending on the outcome of the research, the dissertation may require substantially more work than anticipated when the proposal was approved. The termination of a line of research and the adoption of a substantially new dissertation project requires the preparation, formal defense, and acceptance by the Graduate School of a new dissertation proposal.

Preliminary Approval
One copy of the dissertation, certified as complete and provisionally acceptable to the committee, shall be submitted to the Graduate Dean at least six weeks prior to commencement. The Dean of the Graduate School may seek advice and make suggestions to the committee about content and style before approving the dissertation.

Defense of Dissertation
Normally the approved Doctoral Dissertation Committee serves as the Oral Defense of Dissertation Committee. The Graduate Dean may appoint one additional qualified voting member to the Defense of Dissertation Committee from the Graduate Faculty within the University of Missouri System.

After deliberating on the oral defense of the dissertation, the Defense of Dissertation Committee votes on whether the defense was successful. The defense shall be deemed unsuccessful if there are two negative votes, even if outnumbered by positive votes. An abstention will be considered a negative vote. A student failing an oral defense shall have the opportunity for one additional defense before the same committee. The Defense of Dissertation Committee shall determine the timing and format of the subsequent defense.

Final examinations are open to the public.

The decision of the Defense of Dissertation Committee is final. The report of the final examination is due to the Graduate School no later than two days after the examination.

Dissertation Abstracts
Two different abstracts are required. UMI requires an abstract of a maximum of 350 words and is published with the announcement of the dissertation defense. The abstract forming the second page of the dissertation should be no more than 600 words.

Dissertation Format
Only high quality copies are acceptable with the following margins throughout: left margin 1 ½ inches; top, bottom, and right margins, 1 inch. Final copies may be submitted electronically following current procedures on the Graduate School homepage (http://www.umsl.edu/divisions/graduate/etd/index/html)

or on paper. Original hard copies of the dissertation must be typed on good quality paper, and they must be legible and neat in order to be accepted by the Graduate School.

In matter of style and documentation, the custom of the discipline shall be followed.

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.

Students shall disseminate the dissertation according to current Graduate School procedures.

Graduate Certificate Program

Admission
Each graduate certificate program may determine eligibility standards beyond the minimum for admission to the Graduate School.

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

Filing the Program Plan
A graduate student enrolled in a certificate program is required to file a degree program plan with the Graduate School before completing the first two-thirds of the number of hours required in the program. Changes made in a certificate program plan after it has been filed shall be submitted to the Graduate School.

Fees for Graduate Study
Detail 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. By Board policy, students are charged fees according to their status, not by the level of the course. For that reason, students are charged graduate fees for all course work taken while they are classified as a graduate student.

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:
http://www.umsl.edu/services/finance/resrules.htm
The petition for a change of Missouri Resident Status is available at:
http://www.umsl.edu/services/finance/res-pet.htm
All questions should be directed to the Office of Admissions at (314) 516-5451.

Final Semester Fee
Students must enroll on campus 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 rooms 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 Students 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. Graduate Assistants with half-time appointments are eligible for a subsidy of the insurance premium. To receive the subsidy, GTAs/GRAs (U.S. Citizens only) must enroll in the insurance program through the Graduate School.

Payment of Fees
Students received 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.
- 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 and carry stipends. Students receiving .5 FTE assistantships receive a tuition scholarship 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. Please consult the Graduate School website (http://www.umsl.edu/divisions/graduate/index.html/) for other policies concerning graduate assistantships. Teaching or research assistantship appointments are made directly by the departments. Inquires 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 spring 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, a 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, Academic Advising Center, Admissions, Registration, Financial Aid, Cashiers, Degree Audit, Career Services, Counseling Services, Women's Center, Multi-Cultural Relations, Health Services, Accessibilities Services, Food Services, Bookstore, convenience Store and a full service 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 and the convenience store for those students who want to grab and go. Catering is located on the third floor.

Bookstore and Computer Shop
The University-owned and-operated Bookstore is the headquarters for textbooks, reference materials, general reading books, supplies, gifts, and logo items.

UM-St. Louis Libraries

Amy Arnott, Dean of Libraries
M.A.L.S., University of Missouri-Columbia
Gregory Ames, Curator, John W. Barriger National Railroad Library
M.L.S., State University of New York, Genesco
Clinton Berry, Reference Librarian
M.A., University of Missouri-Columbia
Cheryle Cann, Head, Ward E. Barnes Library
M.S.L.S., University of Missouri-Columbia
Lisandra Carmichael, Head of Access Services,
M.A.I.S.L.T., University of Missouri-Columbia
Christopher Dames, Reference Librarian
M.S., University of Missouri-St. Louis
M. L.S., Kent State University
Mary Doran, Reference Librarian
M.L.S., University of California-Los Angeles
Julie Dunn-Morton, Curator, Woodcock American Art Collection, M.A., University of Delaware, Ph.D., University of Delaware
Joyce Edinger, Coordinator, Library Serials/Acquisitions
M.B.A., University of Missouri-St. Louis
Judith Friedrich, Technical Services Librarian
M.A.L.S., University of Missouri-Columbia
Bette Gorden, Curator, Herman T. Pott Inland Waterways Library
M.A., University of Oregon; M.A.L.S., University of Missouri-Columbia
John H. Hoover, Director, St. Louis Mercantile Library, Associate Director of Libraries for Special Collections
M.A.L.S., University of Missouri-Columbia; M.A., Southern Illinois University-Edwardsville
Joan Miller, Reference Librarian
M.S.I.S., University of North Texas
Raleigh Muns, Reference Librarian
M.L.S., University of California-Los Angeles
Christopher Niemeyer, Reference Librarian
M.L.I.S., University of Texas at Austin
David Owens, Head, Technical Services
M.A.L.S., University of Missouri-Columbia
Janis Peach, Head of Collection Development,
M.S., University of Illinois-Urbana-Champaign
Frances Piesbergen, Reference Librarian/Government Documents
M.A., University of Missouri-Columbia
Karen Robinson, Reference Librarian
SISLT, M.L.S., Emporia State University
M.A. Regent University
Marilyn Rodgers, Reference Librarian
M.A., University of Missouri-Columbia
Helen Shaw, Reference Librarian
M.Ed., University of Illinois-Champaign;
M.A., University of Missouri-Columbia

The University Libraries support the educational objectives of the university and meet the teaching, research, and informational needs of the campus community. House in three locations—the Thomas Jefferson Library and the St. Louis Mercantile Library at UM-St. Louis (North Campus) and the Ward E. Barnes Library (South Campus)--the Libraries' collections consist 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 the Veteran Affairs Regional Office. A certifying official is available to answer veterans' questions about educational benefits 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 that 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) 516-5548.

University Health Services, Wellness, and Counseling Services (UHWCS)
UHWCS provides services to students, faculty and staff from a holistic perspective with consideration given to the six dimensions of wellness. Our primary objective is to assist students in maintaining their optimum level of wellness so that they are able to achieve their maximum academic potential. Services provided are organized into three major areas within UHWCS: Health Services, the Wellness Resource Center, and Counseling Services.

Health Services
University Health Services, is an ambulatory care clinic located in 131 MSC. 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 a medical assistant. Consultation is offered on nutrition and diet management, sexually transmitted diseases, contraception, wellness assessment, and health promotion (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, 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 Health Services. Meningococcal Meningitis immunization is required for all students residing in campus housing.

Tuberculosis screening is required for students who a) have lived for two months or more in Asia, Central or South America or Eastern Europe, b) have been diagnosed with a chronic medical condition that may impair the immune system, c) are health care workers, d) are volunteers of nursing homes, prisons, or other residential institutions, e) have had contact with a person known to have active tuberculosis. For forms and further information please refer to the website; http://www.umsl.edu/services/health.

Information, application and claim forms for the Student Insurance Plan are available from Health Services. Validation for handicapped parking is available through the Cashier's Office located in 258 MSC.

Wellness Resource Center
The Wellness Resource Center in 180 Millennium Student Center serves as a health and wellness center offering information and referral sources on a wide variety of health related issues including women's health and coping with crises. The office of the Coordinator of Alcohol and Drug Prevention is located in the Wellness Resource Center. The campus *Partners in Prevention* program is coordinated through this office, as well as many outreach activities dealing with responsible decision making related to choices students make on a daily basis. Resources are available for students with issues related to alcohol and drug use. Support groups on a variety of issues including smoking cessation, and Adult Child of Alcoholics are available at various times during the semester.

Drug and Alcohol Prevention
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 regarding this policy, contact the Coordinator of Alcohol and Drug Prevention Programming at (314) 516-5414.

A variety of resources exist for drug or alcohol counseling, treatment, or rehabilitation programs. For information concerning these resources contact the offices below. Referrals will be made with respect of individual confidentiality.

Coordinator of Alcohol and Drug Prevention Programming, 180 Millennium Student Center, (314) 516-5414; Counseling Service, 126 Millennium Student Center (314) 516-5711; Student Health Center, 131 Millennium Student Center, (314) 516-5671; 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.

Counseling Services
Counseling Services, located in MSC 126, offers professional counseling regarding personal and social concerns, such as personal growth and self-esteem, relationship issues, anxiety and stress, depression, anger management, grief and loss, problematic eating patterns, personal and sexual identity issues, sexual assault and rape, family history of alcoholism and/or abuse, and current issues with family of origin, as well as issues of low motivation , poor concentration, time management, test anxiety, and procrastination. The web site (http://umsl.edu/services/counser) contains mental health self screenings and links to a variety of self-help topics. Call (314) 516-5711 for appointment.

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 A Hot-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.

Parking and Transportation
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 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 services:

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 IBM 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 the C-Base Exam 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/math practice tests. There is no charge for any math lab service.

Math Precollegiate Courses
The center provides assistance for students needing to improve their skills in mathematics. A three-credit hour (not toward a degree) course in Intermediate Algebra and a zero-credit workshop in Beginning Algebra are offered as semester-long lecture classes or as independent study courses with flexible beginning and ending options. Schedules for the courses 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 the tutor referral services on the campus home page. Times and costs are arranged by student and tutor.

Multicultural Relations
The Office of Multicultural Relations was designed to support the University's goal of academic success and student retention. 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, mentoring, tutoring, academic counseling, career exploration, and leadership development. Workshops and seminars 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. The web site is http://www.umsl.edu~mcraa/mcraa.html. The phone number is 516-6807.

Division of Student Affairs

Office of the Vice Provost for Student Affairs
The Office of the Vice Provost 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 available for individuals who are deaf or have hearing loss. 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 is a recipient of a federally funded Student Support Services TRIO Grant to provide individual specialized educational services to 125 students with disabilities. The SSS grant project offices are also located in 144 Millennium Student Center, telephone number (314) 516-6554 (voice) or (314) 516-5211 (TDD). Applications for this program are available in 144 Millennium Student Center. Web site: http://www.umsl.edu/~sss/

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.

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, 231 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.

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/finaid, 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.

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 Life
E-Mail: studentlife@umsl.edu. Web Page: http://www.umsl.edu/studentlife

The Office of Student Life, 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 Life 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 Life 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 13 to 500 members. Their activities address the educational, cultural, social, recreational, and spiritual cocurricular 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 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 Life in 366 Millennium Student Center.

Student Government

Student Government Association
The Student Government Association (SGA) 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 SGA is to represent University of Missouri-St. Louis student concerns at every level of governance within the University. 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. SGA has its own standing committees to address student concerns. For more information call (314) 516-5105 or drop by 366 Millennium Student Center.

Student Court The Student Court is nominated by the SGA. The five-member court rules on student appeals concerning matters such as disputes between individuals and organizations, or organizations and organizations, as well as traffic parking appeals.

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. The University Assembly consists of all Senate members (40), 13 students and five administrators including the Chancellor, Vice Chancellors for Academic Affairs, Research and the Graduate School, Student Affairs, and Continuing Education. In addition, three other vice chancellors, all the academic deans and the President of the Student Government Association are non-voting members. The Faculty Senate meets monthly between September and May and the Assembly meets in alternate months during the year. Information about the Faculty Senate and University Assembly is available at: www.umsl.edu/committees/senate/

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, indoor floor hockey, 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 numerous 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 Thursday, 8 a.m. to 6 p.m. and Friday, 8 a.m. to 5 p.m.. For more information, call (314) 516-5111, or visit 278 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 to hundreds of local and national employers to view, 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 Experience and Employment Program
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. Throughout this program, Career Services, and academic departments work with students and employers to ensure that positions are linked to curriculum and career development. These work arrangements are available to UM-St. Louis students at all levels in all majors. Contact Career Services for more information at 516-5111, or visit 278 Millennium Center. Following is an overview of internships and practicums available through various academic departments:

Anthropology
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
3699, Undergraduate Internship in Biotechnology - optional as part of certificate program, for credit or noncredit, enrollment in certificate program required.
4299, Practicum in Conservation - required as part of certificate program, for credit, enrollment in certificate program required.

Chemistry and Biochemistry
Opportunities are available to pursue research with faculty members for credit during the academic year. Normally requires enrollment in Chemistry 3905. Stipend available in some cases. Expanded 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 3905 research at a local company through collaborative arrangement between a faculty members and an industrial chemist.

Criminology and Criminal Justice
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
4890, Independent Writing Project - internships offered in areas such as journalism, public relations, advertising, publishing, and technical writing; for credit, enrollment in Writing Certificate Program required.
2980, Practicum in Theater - optional, credit
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 can apply for summer internships abroad through the German-American Student Exchange Program - noncredit. Information available in department.

History
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 278 Millennium Student Center. These positions are paid and non-credit-bearing.

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 2111/2112 sequence.

Political Science
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
3295, Selected Projects in Field Placement - elective, for credit.

Social Work
4800 and 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
4385, Internship in Sociology - elective, for credit.
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 Services works in partnership with the College of Business Administration to assist students in securing career-related work arrangements for students majoring in all areas of business. These positions can be paid or unpaid and credit bearing or non-credit bearing. Those students choosing to receive academic credit through one of the courses listed below must contact the College of Business Administration Internship Coordinator.

BA 3090 Internship in Business Administration
BA 3289 Internship in International Business
BA 3390 Internship in Logistics & Operations Management
BA 3490 Internship in Accounting
BA 3590 Internship in Finance
BA 3690 Internship in Management
BA 3790 Internship in Marketing
BA 3890 Internship in Management Information Systems
BA 3990 Internship in Business Law

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
3387, Professional Internship for Art History majors only-elective, for credit
3388, St. Louis Art Museum Internship for Studio Art or Art History majors only – competitive position elective for credit.

Communication
1193, 1194, 1196, 1197, Practicum in Applied Communication, Debate/Forensics, Radio, and Television/Film - required, for credit. On-campus positions, as available.
3393, 3394, 3396, 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.

Music
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.

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, 278 Millennium Student Center, or call (314) 516-5111 for more information on these programs and other work arrangements available. Web site: http://www.umsl.edu/career

Specialized Centers and Facilities

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 space, it houses fifteen startup companies. Inventions that lead to the establishment of these 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 record-keeping, feasibility studies, and more.
http://www.missourienterprise.org/

Public Policy Research Center
The Public Policy Research Center at University of Missouri-St. Louis seeks ways to make communities more livable through improved public policies. The PPRC provides research services, programs, opportunities and expertise designed to foster university-community partnerships at the local, county and regional level. PPRC responds to community-identified needs with a multi-disciplinary approach to applied research and community and neighborhood development.

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, newsletters and books.
- Interpreting and preserving local history to help communities shape their future.
- 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.
- Partnering with civic, governmental, non profit, and other agencies, as well as with individuals

The PPRC 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 and community fellowships. PPRC also serves as a policy laboratory for a number of graduate students participating in research and outreach activities.

PPRC is organized around three units: Applied Research, Community and Neighborhood Development, and Metropolitan Information and Data Analysis Services (MIDAS). It also curates regularly changing community photography exhibits.
http://pprc.umsl.edu

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 and personal finance education are other focuses for center activities. The center also promotes the goals of economic, entrepreneurship and personal finance 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/artscience/psychology/CTRHome.html

Children's Advocacy Services of Greater St. Louis (CASGSL)
The Children's Advocacy Services of Greater St. Louis provides services to children who have been sexually abused. The organization offers forensic fact-finding interviews; medical exams; victim advocacy, individual, family and group therapy; and training for the community at-large and area professionals. Internships for undergraduate and graduate students are available. Children's Advocacy Services has two facilities: one is located on the University of Missouri-St. Louis South Campus and one is located in the Central West End.
http://www.safekidsmo.org

Centers Providing Public and University Service

Blanche M. Touhill Performing Arts Center
Now beginning its third season of presenting the finest in the performing arts to the St. Louis region, the Blanche M. Touhill Performing Arts Center opened its doors in September 2003. The $52 million non-profit facility designed by Pei Cobb Freed and Partners, features the 1,625-seat Anheuser-Busch Performance Hall and the 350-seat E. Desmond and Mary Ann Lee Theater. The Center is the jewel of the UM-St. Louis campus and is a focal point for creating an arts district for students at the University.

The Touhill's mission is laid out in the following statement: The Touhill Performing Arts Center at the University of Missouri-St. Louis creates opportunities for the people in our region to experience, appreciate and embrace the transformational power of the performing arts. It is a welcoming place, a leading cultural partner in our community and a symbol of this University's commitment to integrate education, innovation and excellence.
More information about the Touhill can be found at www.touhill.org

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.

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 the 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. For over a decade, the Center has sponsored an annual conference titled "What is a City?" that examines the structure and social environment of cities and their effects on social and cultural life. The Center sponsors the Monday Noon Cultural Series, which features a variety of humanities and arts presentations and performances. The Center also supports and coordinates the poetry and short story series, which showcases authors reading their original 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.

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 and Scholar Services coordinates and provides services for international students and scholars 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, international education, Irish Studies, Japanese Studies, the German Culture Center, and the Greek 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 Africana studies, East Asian studies, European studies, Greek 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 International Studies Resource Library and operates a comprehensive global education program.

Center for Teaching and Learning
The CTL is a division of the Office of Academic Affairs that promotes student learning by offering programs and resources that support effective teaching and learning at the University of Missouri-St. Louis. Orientations, workshops, and seminars are designed to support the professional development of faculty (full-time and part-time), academic leaders, graduate students, and Teaching Assistants. The CTL co-sponsors programs with other campus units to introduce technology supports for teaching and learning and to create campus conversations about timely initiatives such as student and civic engagement. The CTL programs include:

- New Faculty Orientation in August
- New Part-time Faculty Orientation offered before the start of fall, spring, and summer semesters
- Teaching Assistants conference and workshop in August
- Academic Leaders Forum
- Fall Focus on Teaching and Technology Conference

The CTL coordinates two UM System initiatives on campus, the New Faculty Teaching Scholars Program and the Leadership Development Program and sponsors the implementation of the Faculty Survey of Student Engagement. Confidential classroom consultations and mid-semester online course are available each semester to all faculty. Additional information and current program offerings are available at http://www.umsl.edu/ctl

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.

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, Benton Hall, and South Campus Computer Building where consultants are available to assist students with general operation and troubleshooting needs

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

The Faculty Resource Center (FRC)
The Faculty Resource Center (FRC), provides enhanced technical support to faculty, TA's, graduate students and support staff wishing to integrate technology into course content. These support resources include assistance in development of web-based material, assistance with online courses; the integration of video or graphics into course materials; training in the use of various instructional technologies; and access to networked workstations with software and media capabilities. For more information, please visit our web site at:
http://www.umsl.edu/technology/frc or call (314) 516-6704

The My Gateway 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, Room 200, provides new line 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.
http://www.umsl.edu/technology/mgwhelp/fachelp/otc.html

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.

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.

Continuing Education and Outreach

As the region's only public research university, 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 needs 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, colleges and centers 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 from the college's departmental disciplines, including courses and workshops in the archaeology, microcomputers, writing, languages, history, and social and physical sciences. Interdisciplinary teaching and research programs deal with such fields as social work, the humanities, women's studies, and economics.

The Center for Entrepreneurship and Economic Education provides programs and curriculum consultations to local teachers and schools internationally.

The Microcomputer Program develops and teaches applied computer courses and offers the Chancellor's Certificate on the Computer, along with other certificate programs.

The Advanced Credit Program 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.

Business Administration
Continuing Education noncredit programs through the College of Business Administration are offered in several areas, including organizational and management development and individual professional growth. Several certificate programs are offered.

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. Programs can be customized to meet the particular needs of organizations.

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 noncredit fine arts outreach programs are offered in partnership with the Saint Louis Symphony, Opera Theatre of Saint Louis, and the Muny.

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
The College of Nursing at the University of Missouri-St. Louis offers a variety of programs for Registered Nurses. Currently, the college offers the RN/BSN option at St. Charles Community College and at various sites in the Barnes-Jewish Health Care System. The MSN/FNP program is offered at St. Charles Community College and at Mineral Area College.

Optometry
The University of Missouri-St. Louis offers diagnostic and therapeutic Continuing Education and Outreach programs for optometrists through the UM-St. Louis College of Optometry.

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 also offers credit courses at other metropolitan sites, including St. Charles Community College, Mineral Area College, Jefferson College, and the South County Education and University Center.

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 special hosted programs each year.

Degree Programs

Undergraduate Studies
Undergraduate degree programs are offered by the College of Arts and Sciences, College of Business Administration, College of Education, College of Fine Arts, College of Nursing and Health Sciences and joint programs with Washington University..

Bachelor of Arts (B.A.)
Anthropology
Art history
Biology
Chemistry
Communication
Economics
English
French
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
Biochemistry and Biotechnology
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

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 Music Education (M.M.E.)

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

Master of Education (M.Ed.)
Adult and Higher Education
Counseling
Educational administration
Elementary education
Secondary education
Special education

Master of Public Policy Administration (M.P.P.A.)

Master of Science (M.S.)
Biology
Biochemistry and Biotechnology
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.)

Education Specialist (Ed.S.)
Education Administration
School Psychology

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
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 and school, 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.
In addition the College offers a Bachelors Degree in Biochemistry and Biotechnology and a Bachelor of Science in Liberal Arts.

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. The College also offers a Master of Science in Biochemistry and Biotechnology.

Coursework in the evening or through on-line and/or video instruction is made available by all departments of the College and the School of Social Work. The following degree programs can be completed in the evening:

Bachelor of Arts in Biology, Chemistry, Economics, English, History, Mathematics, Physics, Political Science, Psychology, and Sociology.

Bachelor of Science in Biology, Chemistry, Computer Science, Criminology and Criminal Justice, Economics Mathematics, Physics, and Sociology.

Bachelor of Social Work

Bachelor of Liberal Studies

Consult the website of the department in which you plan to major for details on degree requirements and a three year schedule of planned course offerings.

Requirements for Undergraduate Study
In addition to the university's general education requirements, all majors in the College of Arts and Sciences must meet the following requirements:

To graduate, all majors including the Bachelor of Liberal Studies must complete the following:

- Requirements of their chosen baccalaureate degree (i.e., B.A., B.S., BSW., 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.

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. 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 2000 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 2000 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, media studies, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work,

sociology, theatre and dance, 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, 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 2115 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 2115 A, B, 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 mathematics, biochemistry and biotechnology, 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 Liberal Studies
(See Interdisciplinary Programs for complete description)

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 School 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 is interdisciplinary in nature and involves 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, forensic economics, 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 the Center for International Studies and other Colleges, the College offers certificate programs in Africana, East Asian, European, Greek, International, and Latin American studies. The College also cooperates 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, 278 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*, Chairperson
Ph.D., University of California-Santa Barbara
Michael Cosmopoulos, Hellenic Government-Karakas Foundation Professor of Greek Studies and Professor
Ph.D., Washington University
Sheilah Clarke-Ekong, Associate Professor*,
Ph.D., University of California-Los Angeles
Margo-Lea Hurwicz, Associate Professor*
Ph.D., University of California-Los Angeles
Jay Rounds, Des Lee Professor of Museum Studies*
Ph.D., University of California-Los Angeles
Pamela Ashmore, Assistant Professor
Ph.D., Washington University
Timothy E. Baumann, Assistant Professor
Ph.D., University of Tennessee-Knoxville
Jacquelyn Lewis-Harris, Assistant Professor of Education and Director for the Center for Human Origin and Cultural Diversity
Ph.D., Washington University
John Wolford, Adjunct Assistant Professor*
Ph.D., Indiana University
Patti Wright, Assistant Professor*
Ph.D., Washington University
Donna Hart, Lecturer
Ph.D. Washington University
Lessie Jo Frazier, Adjunct Associate Professor
Ph.D., University of Michigan, Ann Arbor
Catherine Koziol, Adjunct Assistant Professor
M.A., Washington University
Paul Schoomer, Senior Lecturer
B.A., Washington University
Aobin Machiran, Lecturer
M.A., University of Missouri-St. Louis

*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, 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, and Native American communities in the United States. They encompass studies in 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 and 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 around Iklaina, Greece, a Bronze Age administrative center. The department also has an archaeology lab and library with one of the largest extant collections of prehistoric and historical artifacts from eastern Missouri.

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. In Forensic Anthropology they work with the department's own collection of skeletal remains.

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 Association of Student Anthropologists that sponsors an intercultural film series, speakers, and social activities.

Paid undergraduate positions are available on a competitive basis to anthropology majors as 1) Biological Anthropology 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.

Minors in Anthropology
The department offers two minors in cultural anthropology and archaeology. The minors are 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.

Certificate in Archaeology
The certificate in archaeology provides applied training in both laboratory and field methods to students who could be hired to assist professional archaeologists in area firms. Internships can be arranged with the UM-St. Louis archaeology lab or with a local institution (e.g. Cahokia Mounds State Historic Site, Missouri Historical Society, Mastodon State Historic Site). These internships can be conducted on Saturdays, Sundays or in the evenings.

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 1005, Introduction to Biological Anthropology
Anth 1011, Introduction to Cultural Anthropology
Anth 1019, Introduction to Archaeology
Anth 3202, Culture, Politics, and Social Organization
Soc 3220, Sociological Statistics, or any other college level statistics course
Anth 4301, Ideas and Explanations in Anthropology
Anth 4308, Practicum in Cultural Research Methods **OR**
Anth 4310, Laboratory Methods in Archaeology
Anth 4315, Senior Seminar
Anth 4316, Senior Seminar Tutorial
Two courses from two *different* subfields in Anthropology (Cultural Anthropology, Archaeology, Physical Anthropology, or Linguistic Anthropology) numbered 2100-2199
Two courses in Anthropology numbered 3200-3299, in addition to 3202.
The total number of hours required for the major is 39. Students may elect to take up to, but not to exceed, 12 additional hours in anthropology courses of their choice.

Residency Requirement
Undergraduate majors must complete a minimum of 17 hours of upper-level (3000-5000) Anthropology courses in residence, including 3202, 4301, 4308 or 4310, 4315, 4316, and one other course numbered from 3000 to 5000.

Archaeology Minor
Anth 1019, Introduction to Archaeology
One anthropology course at the 2100-2199 level with an archaeological emphasis.
One anthropology course at the 3200-3299 level with an archaeological emphasis.
One elective anthropology course at any level-archaeological emphasis is not required.
Anth 4310, Laboratory Methods in Archaeology OR
Anth 4309, Archaeological Field School

Cultural Anthropology Minor
Anth 1011, Introduction to Cultural Anthropology
One anthropology course at the 2100-2199 level with a cultural emphasis.
One anthropology course at the 3200-3299 level with a cultural emphasis.
One elective anthropology course at any level-cultural emphasis is not required.
Anth 4301, Ideas and Explanations in Anthropology **OR**
Anth 4308, Practicum in Cultural Research Methods
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.

Archaeology Certificate
Anth 1019, Introduction to Archaeology
One anthropology course at the 2100-2199 level with an archaeological emphasis.
One anthropology course at the 3200-3299 level with an archaeological emphasis.
Anth 4310, Laboratory Methods in Archaeology
Anth 4309, Archaeological Field School
Anth 4326, Internship in Archaeology (1-6 credit hours)

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 archaeology 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. 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 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: 1005, 1011, 1015, 1019, 1021, 1025, 1033, 1041, 1091, 2109, 2110, 2111, 2113, 2114, 2117, 2120, 2124, 2125, 2126, 2131, 2132, 2134, 2135, 2136, 2137, 2138, 2173, 2190, 2191, 3202, 3210, 3212, 3215, 3225, 3230, 3231, 3234, 3235, 3238, 3242, 3244, 3250, 3255, 3286, 3290, 3291, 4301, 4308, 4309, 4310, 4315, 4350, 4391. The following courses satisfy the Cultural Diversity requirement: 1011, 1019, 1021, 1025, 1033, 1041, 1051, 1091, 2110, 2111, 2113, 2114, 2120, 2123, 2124, 2131, 2132, 2134, 2135, 2136, 2137, 2138, 2173, 2191, 3235, 3238.

1005 Introduction to Biological Anthropology (4)
Biological anthropology studies 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.

1006 Introduction to Non-Human Primates (3)
As a general survey of our closest living relatives, this course introduces the ecology, cognition, communication, social and sexual behavior, and fossil history, of non-human primates. The work of well-known primatologists is used to illustrate various aspects of field research. Conservation status of primates in the wild is assessed as well as current threats to survival.

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.

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.

1019 Introduction to Archaeology (3) [MI, SS, CD]
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.

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.

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).

1033 World Archaeology (3) [MI, SS, CD]
Discusses 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.

1041 Sex and Gender Across Cultures (3) [CD]
This course considers womanhood, manhood, third genders, and sexuality in a broad cross-cultural perspective. The focus of the course is on the diverse cultural logics that separate females, males and sometimes third genders into different groups in different societies, with the male group usually being the more prestigious one. Focusing on indigenous non-Western cultures, this course examines gender roles and sexuality within the broader cultural contexts of ritual and symbolism, family, marriage and kinship, economy, politics, and public life. This course will help students understand what it is like to be male or female in non-Western cultures.

1051 Anthropology of Sport (3) [CD]
This course is an overview of sports in different times and cultures. It offers a comparative perspective on similarities and differences between sports in Western and non-Western cultural traditions through an examination of such topics as: the ancient Greek Olympic Games vs. sports in ancient China and Japan; the use of sports by colonial empires to colonize non-Western subjects; the development and spread of the modern Olympic Games; sports and nationalism; sports in China. Particular attention will be paid to the relationships between sport and gender, social class, ethnic/racial identity, and nationalism.

1091 Introductory Topics in Anthropology (3) [CD]
This course features special and current topics at the introductory level in the areas of social, cultural and physical anthropology and archaeology. The course examines the basic concepts and provides an understanding of the development of new trends and areas of study in the field of Anthropology. Topics will focus on the comparative study of non-Western cultures such as ecological practices in tribal societies; religious practices in prehistoric cultures; the roles of women across cultures; etc. Topics may vary and the course may be repeated provided topic is different.

1095 Brief Overview of the Four Fields of Anthropology (1)
Through the use of videos, readings, and the online course management system, this course provides a brief overview of the four traditional fields of anthropology: biological, archaeological, cultural, and linguistic anthropology. This course is designed for video instruction and offers minimal direct interaction with the instructor.

2105 Human Variation (3)
This course will look at the variation that exists within our own species, both between and within populations. It will investigate the evolutionary and genetic basis of human variation, as well as its diversity, adaptive significance, and distribution. Topics covered will include: body shape and physiology, blood groups, susceptibility to disease, and skin color. It will survey historical attempts to classify humans into different "races"; assess definitions of race as a solely cultural construct; and critique attempts to link race, intelligence and performance.

2109 Archaeological Field School (3-6)
Prerequisite: Consent of instructor. Introduction to field methods in archaeology and to the techniques of recording, storing, analyzing, and reporting archaeological findings. Experience is gained through participation in a field research project including excavation and survey projects. Emphasis is placed upon research design and implementation and upon the use of archaeological data in describing and explaining human behavior.

2110 Cultures of Asia (3) [CD]
A survey of the cultures of Asia including the prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of these groups.

2111 Cultures of East Asia (3) [CD]
An ethnographic and historical survey of the various people of East Asia including Japan, China, North and South Korea, Hong Kong, and Macau. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments.

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.

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 ethnological relationships, social and political structure, religious beliefs, and contemporary problems.

2117 Greek History and Culture (3)
(Same as Hist 2117)
Greek civilization has had a deep impact on contemporary society in art; social, political, and economic organization; philosophy; law; medicine; and science. This course covers major aspects of Greek history and culture from antiquity to the present. It considers the major political and military events of Greek history, as well as important aspects of Greek culture, including sports and the history of the Olympic Games, literature, philosophy, and mythology.

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 groups.

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.

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.

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.

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.

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.

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.

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 Mayan and Aztec societies, and discusses changes that led to what was perhaps the largest nation on earth for its time, the Inca.

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.

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.

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.

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.

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.

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.

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.

3202 Culture, Politics and Social Organization (3)
Prerequisite: Anth 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.

3209 Forensic Anthropology (3)
Prerequisites: Anth 1005, or Biol 1102, or junior standing, or consent of instructor.
This course teaches the application of the methods of physical anthropology and archaeology to the collection and analysis of skeletonized human remains. Students will learn the basic human dental and skeletal anatomy necessary to maximize the information obtained from human remains, including: how to age and sex skeletal remains; associations with ethnic affiliations, stature and handedness; determining the presence of trauma and disease. Students will experience the precise scientific methodology for recovery of remains, including excavation methods and record keeping. They will work with both fingerprint analysis and DNA identification. Ethics, court testimony and human rights applications will also be discussed. There will be guest speakers such as individuals working with a coroner's office, judicial criminologists, human pathologists, forensic entomologists, or archaeologists.

3210 Applied Anthropology (3)
Prerequisite: Anth 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.

3212 Medical Anthropology (3)
Prerequisite: Anth 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.

3215 Growing Old in Other Cultures (3)
Same as Ger 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.

3225 Ritual, Death, and Sports: The Archaeology of Greek Mythology (3)
Prerequisites: Anth 1019 or Anth 1011 or consent of instructor. Since the beginning of our existence, humans have pondered the Mysteries of life and death and have strived to find meaning in a constantly changing world. In Western civilization, Greek mythology and religion represent humanity's earliest attempts to deal with the greater forces that affect our lives, which found expression in the great religious and athletic festivals, such as the Olympic Games. We will study the myths, rituals, religious beliefs of the ancient Greeks and how these were expressed in sports and art, in order to get a glimpse of the Greeks' understanding of life, death, and the supernatural. The sources of our exploration are two: the fascinating archaeological discoveries of ancient Greek sites and relevant readings from the ancient Greek literature.

3230 Method and Theory in Prehistoric Archaeology (3)
Prerequisites: Anth 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, ethnoarchaeology, artifact analysis, seriation, dating techniques, remote sensing, and others. Requires substantial reading and writing.

3231 Method and Theory in Historical Archaeology (3)
Prerequisites: Anth 1019, 2125, 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.

3234 Cultural Continuity and Change in Sub-Saharan Africa (3)
Prerequisite: Anth 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 people will be investigated. Problems and accomplishments are both reviewed so as to acknowledge the complexity of contemporary African societies.

3235 Women in Subsaharan Africa: A Contemporary Perspective (3) [CD]
Prerequisite: Anth 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.

3238 Culture and Business in East Asia (3) [CD]
Prerequisite: Anth 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.

3242 The Culture of Cities (3)
Prerequisite: Anth 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.

3244 Religion, Magic, and Science (3)
Prerequisite: Anth 1011, 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.

3250 American Folklore (3)
Prerequisite: Anth 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).

3255 Oral History and Urban Culture in St. Louis (3)
Prerequisites: Anth 1011or 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.

3286 Society, Arts, and Popular Culture (3)
Same as Soc 3286. Prerequisite: Soc 1010 or Anth 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.

3290 Advanced Topics in Archaeology (3)
Prerequisites: Anth 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.

3291 Current Issues in Anthropology (3)
Prerequisite: Anth 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.

3292 Current Issues in Anthropology (4)
Prerequisites: Anth 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. Includes a lab component. May be repeated provided topic is different.

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

4308 Practicum in Cultural Research Methods (4)
Prerequisites: One course in statistics and Anth 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.

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.

4310 Laboratory Methods in Archaeology (4)
Prerequisite: Anth 1019, Soc 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.

4315 Senior Seminar in Anthropology (3)
Prerequisite: Anth 4308 or 4310.
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. Must be taken concurrently with Anth 4316.

4316 Senior Seminar Tutorial (1)
Prerequisites: Anth 4308 or 4310.
The student chooses a faculty member with expertise relevant to the topic of the senior thesis. The student and faculty member arrange a schedule of meetings to discuss the drafts of each section of the senior thesis as they are completed. The student will be expected to follow advice about research methods, find and utilize the sources suggested, and incorporate editorial corrections in the writing. The instructor will be the Second Reader of the senior thesis, and will jointly assign the final grade to the senior thesis together with the instructor of Anth 4315. Must be taken concurrently with Anth 4315.

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.

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.

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 urban fieldwork report. Specific placements will be selected to match a student's interests and career goals.

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 student's interests and career goals.

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 institution, lab or research setting related to forensics, primate behavior and biology, human genetics, population, environmental policy, and other domains related to physical anthropology.

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.

4391 Current Issues in Anthropology (1-4)
Prerequisite: Anth 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.

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 is taught at Washington University for the Joint Center on East Asian Studies.

5429 The Body in East Asian Culture (3)
Prerequisites: Graduate standing and one course on East Asia. This course looks at the meanings and practices associated with the body in Mainland China, Japan, South Korea, Taiwan, and Hong Kong. Detailed analysis of the concepts of the body in classical Chinese medicine forms the basis for philosophical discussions of Western mind-body dualism vs. Eastern mind-body synthesis. Anthropological, sociological and historical research on sports, fashion, beauty, diet, meditation, and martial arts will also be covered. This course is taught at Washington University for the Joint Program on East Asian Studies.

5440 Cultural Aspects of Aging (3)
Prerequisite: Graduate status or consent of instructor
Same as Ger 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.

6135 Foundations of Museology I (3)
Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6135 and Hist 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.

6136 Foundations of Museology II (3)
Prerequisite: Anth 6135 and consent of Director of Museum Studies Program. Same as Art 6136 and Hist 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.

6137 Effective Action in Museums (3)
Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6037 and Hist 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.

6138 Museum Studies Master's Project (4)
Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6038 and Hist 6138. Research and writing/exhibit development on a selected topic.

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.

Degree Programs in Biochemistry and Biotechnology

Faculty

Shirley Bissen, Associate Professor of Biology*, Director
Ph.D., University of Michigan
Wesley R. Harris, Professor of Chemistry and Biochemistry*
Ph.D., Texas A. and M. University
Teresa Thiel, Professor of Biology*; Associate Dean, Arts and Sciences
Ph.D., Case Western Reserve University
Xuemin Wang, E. Desmond Lee and Family Fund Endowed Professor of Plant Sciences*
Ph.D., University of Kentucky
Valerian T. D'Souza, Associate Professor of Chemistry and Biochemistry*
Ph.D., University of Detroit
Cynthia M. Dupureur, Associate Professor of Chemistry and Biochemistry*
Ph.D., Ohio State University
Jane A. Starling, Associate Professor of Biology Emeritus*
Ph.D., The William Marsh Rice University
Keith J. Stine, Associate Professor of Chemistry and Biochemistry*
Ph.D., Massachusetts Institute of Technology
Colin MacDiarmid, Assistant Professor of Biology*
Ph.D., University of Auckland
Michael R. Nichols, Assistant Professor of Chemistry and Biochemistry*
Ph.D., Purdue University
Wendy M. Olivas, Assistant Professor of Biology*
Ph.D., University of Nebraska Medical Center
Marc Spingola, Assistant Professor of Biology*
Ph.D., University of New Mexico
Chung F. Wong, Assistant Professor of Chemistry and Biochemistry*
Ph.D., University of Chicago

*members of Graduate Faculty

General Information

Degrees
The Biochemistry and Biotechnology Program provides academic programs leading to the undergraduate B.S. degree or the graduate M.S. degree in Biochemistry and Biotechnology. These degrees are offered in cooperation with the Department of Biology and the Department of Chemistry and Biochemistry. Faculty members in this program are engaged in teaching and research in areas such as biochemistry, genetics, molecular biology, cell biology and developmental biology. Majors have the opportunity through coursework, laboratories, seminars and research experience to develop the knowledge and skills necessary to enter the workforce or to go on with further graduate education.

Career Outlook
Nationally and regionally the emerging Biotechnology sector will increase the demand for workers with significant training in molecular biology, biochemistry, and genetics. The St. Louis metropolitan area has long been a major center for biochemistry and biotechnology, and in the past decade it has become a focus for the establishment of life sciences research and development. A degree in Biochemistry and Biotechnology provides students with the training they need to become part of the broad biotechnology and life sciences industries.

Undergraduate Studies

Degree Requirements

Bachelor of Science in Biochemistry and Biotechnology

General Education Requirements
Students must satisfy the university and college general education requirements. Some math or science courses required for the major may be used to meet the science and mathematics requirement of the university. There is no foreign language requirement for the degree.

Satisfactory/Unsatisfactory Option
Up to 18 credit hours may be taken on a satisfactory /unsatisfactory (s/u) basic. Excluded from this option are required courses in biology, chemistry, physics, and mathematics.

Non-major Biology or Chemistry courses
Courses in Biology with a number less than 1800 and courses in Chemistry with a number less than 1100 **do not** count toward the credit hours required for a major in biochemistry and biotechnology.

1) Biology and Chemistry Core Courses
Biol 1811, Introductory Biology: From Molecules to Organisms
Biol 2012, Genetics
Biol 2013, Genetics Laboratory
Biol 2482, Microbiology
Biol 2483, Microbiology Laboratory
Biol 3622, Cell Biology
Biol 4602, Molecular Biology
Chem 1111, Introductory Chemistry I
Chem 1121, Introductory Chemistry II
Chem 2223, Quantitative Analysis
Chem 2612, Organic Chemistry I
Chem 2622, Organic Chemistry II
Chem 2633, Organic Chemistry Laboratory
Chem 3302, Physical Chemistry for The Life Sciences

2) Biochemistry and Biotechnology Core Courses
Biol 4712 or **Chem 4712**, Biochemistry
Biol 4713, Techniques in Biochemistry **or**
Chem 4733, Biochemistry Laboratory
Biol 4614, Biotechnology Laboratory I

3) Math and Physics Core Courses
Math 1030, College Algebra
Math 1035, Trigonometry
Math 1100, Basic Calculus **or**
Math 1800, Analytic Geometry and Calculus I
Phys 1011, Basic Physics
Phys 1012, Basic Physics

4) Biochemistry and Biotechnology Elective Courses – 9 credit hours chosen from the courses below:
Biol 4612, Molecular Genetics of Bacteria
Biol 4615, Biotechnology Laboratory II
Biol 4622, Molecular Cell Biology
Biol 4632, Nucleic Acid Structure and Function
Chem 3643, Advanced Organic Chemistry Laboratory
Chem 4722, Advanced Biochemistry
Chem 4764, Interdisciplinary Topics in Biochemistry
Chem 4772, Physical Biochemistry

Electives
Recommendations include basic statistics (Math 1310 or Math 1320), computer science, public speaking (Comm 1040), foreign language, ethics, and undergraduate research.

Research Opportunity
Students are encouraged to complete a minimum of 2 credit hours of undergraduate research, which provides students with an opportunity to gain research experience under the supervision of a faculty member. The project will normally include a review of the literature, laboratory experience and a research paper.

Minor in Biology
Students complete the B.S. degree in Biochemistry and Biotechnology may also obtain a minor biology by completing **Biology 1821**, Introductory Biology : Organisms and the Environment. The minor must be approved by the chairperson of the Department of Biology. At least 9 hours of the biology course credits must be taken in residence at UM-St. Louis. 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.

Minor in Chemistry
Students complete the B.S. degree in Biochemistry and Biotechnology will also fulfill the course requirements for a minor in Chemistry. A GPA of at least 2.0 is required for the courses presented for the minor. At least three courses toward the Chemistry minor must be completed at UM-St. Louis.

Graduate Studies

Degree Requirements
Master of Science in Biochemistry and Biotechnology
The Biochemistry and Biotechnology Program offers two types of Master of Science degrees. One is a non-thesis option suitable for those with laboratory research experience or for others, such as educators, who do not require research experience. The other option includes a laboratory-based research apprenticeship 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 as a thesis student by a faculty member of the program.

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 used by the admission committee for consideration of admittance. Admission as a regular graduate student requires graduation from an accredited college with a minimum grade point average overall and in biology and chemistry courses of 3.0 (where A = 4.0). Students will generally be expected to have completed a major in biology, chemistry, or biochemistry. In addition to the Graduate School admission requirements, applicants should have completed an undergraduate course in biochemistry (equivalent to Biology/Chemistry 4712) .

All foreign applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 213 on the computer-based exam (550 on the paper-based exam) or better is required.

Requirements
Both the thesis and non-thesis options require a total of 30 graduate credit hours, of which at least half must be at the 5000-level or above. A maximum of 12 or 5 credit hours of Graduate Research (Biol or Chem 6905) may be applied toward the 30 credit hour total for the thesis or non-thesis options, respectively.

1) Required Courses
Chem 4722, Advanced Biochemistry
Chem 5794, Special Topics in Biochemistry (Bioinformatics)
Biol 4614, Biotechnology Laboratory I **or**
Biol 6615, Advanced Biotechnology Laboratory II
Biol 6602, Advanced Molecular Biology **or**
Biol 6612, Advanced Molecular Genetics of Bacteria
Biol 6889, Graduate Seminar

2) Elective Courses
Chem 4733, Biochemistry Laboratory
Chem 4764, Interdisciplinary Topics in Biochemistry

Chem 4772, Physical Biochemistry
Chem 5794, Special Topics in Biochemistry
Chem 6787, Problem Seminar in Biochemistry
Chem 6905, Graduate Research
Biol 4842, Immunobiology
Biol 5069, Topics in Cell and Molecular Biology
Biol 6602, Advanced Molecular Biology
Biol 6612, Advanced Molecular Genetics of Bacteria
Biol 6615, Advanced Biotechnology Laboratory II
Biol 6622, Advanced Molecular Cell Biology
Biol 6632, Advanced Nucleic Acid Structure and Function
Biol 6642, Advanced Plant Molecular Biology & Genetic Engineering
Biol 6652, Advanced Virology
Biol 6699, Graduate Internship in Biotechnology
Biol 6889, Graduate Seminar
Biol 6905, Graduate Research

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 requirements as described in that Bulletin:

Biology: 1811, 2012, 2482, 3622, 4602, 4712, 4612, 4622, 4632. Chemistry: 1111, 1121, 2223, 2612, 2622, 3302, 4712, 4722, 4764, 4772.

Biology Courses

*Note – Majors in Biochemistry and Biotechnology are not required to take Biol 1821; hence it is not a prerequisite for Biol 2012, Biol 2482, or Biol 3622 for these majors.

1811 Introductory Biology: From Molecules to Organisms (5), [MI, MS]
Prerequisite: A minimum of high school chemistry, Eng 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 2000-level or above. 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.

2012 Genetics (3)
Prerequisite: Biol 1811[majors must also take Biol 1821] and Chem 1111 or [Chem 1082 plus Chem 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.

2013 Genetics Laboratory (2)
Prerequisite: Concurrent registration in Biol 2012, or by consent of instructor. Laboratory to accompany Biol 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.

2482 Microbiology (3)
Prerequisite: Biol 1811 [majors must also take Biol 1821] and Chem 1111 [or Chem 1082 plus Chem 1091]. Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

2483 Microbiology Laboratory (2)
Prerequisite: Biol 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.

3622 Cell Biology (3)
Prerequisite: Biol 1811 [majors must also take Biol 1821], Chem 1111, 1121 and 2612 or equivalents. Examination of the basic biological processes of cells.

4602 Molecular Biology (3)
Prerequisite: Biol 2012 and 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 both Biol 4602 and Biol 6602.

4612 Molecular Genetics of Bacteria (3)
Prerequisite: Biol 2482 and Biol 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 received credit for both Biol 4612 and Biol 6612.

4614 Biotechnology Laboratory I (4)
Prerequisite: Biol 2012 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, discussion, 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 4000-level or above lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for Biol 4614 and a comparable biotechnology course from another institution.

4615 Biotechnology Laboratory II (4)
Prerequisite: Biol 4614 and either Biol 4602 or Biol 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 4000-5000 level lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for both Biol 4615 and Biol 6615.

4622 Molecular Cell Biology (3)
Prerequisite: Biol 3622, Biol 4602, and Biol 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 Biol 4622 and Biol 6622.

4632 Nucleic Acid Structure and Function (3)
Prerequisite: Biol 2012 and 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 Biol 4632 and 6632.

4712 Biochemistry (3)
[Same as Chem 4712]. Prerequisite: Chem 2612 and either Biol 1811 or Chem 2622. Examines the chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Students may not receive credit for both Biol 4712 and Chem 4712.

4713 Techniques in Biochemistry (2)
Prerequisite: Biol 4712 or Chem 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 my need to return to the laboratory at unscheduled times to complete some experiments.

4842 Immunobiology (3)
Prerequisite: Biol 4712 and Chem 2612. The fundamental principles and concepts of immunobiology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours of lecture per week.

5069 Topics in Cellular and Molecular 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.

6602 Advanced Molecular Biology (3)
Prerequisite: Biol 2012 and 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 both Biol 6602 and Biol 4602.

6612 Advanced Molecular Genetics of Bacteria (3)
Prerequisite: Biol 2012 and 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. Student may not receive credit for both Biol 6612 and Biol 4612.

6615 Advanced Biotechnology Laboratory II (4)
Prerequisite: Biol 4614 and either Biol 4602 or Biol 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 both Biol 6615 and Biol 4615.

6622 Advanced Molecular Cell Biology (3)
Prerequisite: Biol 4602, Biol 3622, and Biol 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 given an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6622 and Biol 4622.

6632 Advanced Nucleic Acid Structure and Function (3)
Prerequisite: Biol 2012 and 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 mucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interaction, and RNA metabolism. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biol 4632 and Biol 6632.

6642 Advanced Plant Molecular Biology and Genetic Engineering (3)
Prerequisite: Biol 4602 or 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 Biol 4642 and Biol 6642.

6652 Advanced Virology (3)
Prerequisite: Biol 2482 and 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 Biol 4652 and 6652.

6699 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 Biol 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.

6889 Graduate Seminar (2)
Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

6905 Graduate Research in Biology (1-10)
Research in area selected by student in consultation with faculty members.

Chemistry Courses

1111 Introductory Chemistry I (5) [MS]
Prerequisite: 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 1082 and 1111, and both Chem 1011 and 1111 in ht e120 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.

1121 Introductory Chemistry II (5) [MI, MS]
Prerequisite: Chem 1111 or advanced placement. Lecture and laboratory are a continuation of Chem 1111. Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

2223 Quantitative Analysis (3) [C, MI, MS]
Prerequisite : Chem 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 spetrophotometric processes. The laboratory provides exercises in titrimetirc, 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.

2612 Organic Chemistry I (3) [MS]
Prerequisite: Chem 1121. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

2622 Organic Chemistry II (3) [MI, MS]
Prerequisite: Chem 2612. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

2633 Organic Chemistry Laboratory (2) [C, MS]
Prerequisite: Chem 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.

3302 Physical Chemistry for the Life Sciences (3)
Prerequisites: Chem 2612 and Math 1800 or Math 1100, and Phys 1012. Principles and applications of physical chemistry appropriate to students pursuing degree programs in the life sciences. Topics will include thermodynamics, equilibria, kinetics, and spectroscopy.

This course is intended for undergraduates seeking the B.S. degree in Biochemistry and Biotechnology and does not fulfill the physical chemistry requirement for other Chemistry B.A. and B.S. degree programs.

3643 Advanced Organic Chemistry Laboratory (2)
Prerequisites: Chem 2223, Chem 2622, Chem 2633. Chem 3022 may be taken concurrently. 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.

4712 Biochemistry (3)
[Same as Biol 4712] Prerequisite: Chem 2612 and either Biol 1811 or Chem 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 Biol 4712 and Chem 4712. Biol 4712 may not be used to fulfill the 3000 or 4000 level lecture course requirement for the B.S. in Biology.

4722 Advanced Biochemistry (3)
Prerequisite: Chem 4712. Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

4733 Biochemistry Laboratory (2)
Prerequisite: Chem 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 hour of laboratory per week.

4764 Interdisciplinary Topics in Biochemistry (3)
Prerequisite: Chem 4712; Chem 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.

4772 Physical Biochemistry (3)
Prerequisite: Chem 3312 or Chem/Biol 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.

5794 Special Topics in Biochemistry (1-3)
Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.

6787 Problem Seminar in Biochemistry (1)
Prerequisite: 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.

6905 Graduate Research in Chemistry (1-10)

Department of Biology

Faculty

James H. Hunt, Professor*, Chairperson
Ph.D., University of California-Berkeley
Elizabeth A. Kellogg, E. Desmond Lee Professor of Botanical Studies*
Ph.D., Harvard University
Patricia G. Parker, E. Desmond Lee Professor of Zoological Studies*
Ph.D., University of North Carolina, Chapel Hill
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
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*, Interim Director, International Center for Tropical Ecology
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
Xuemin Wang, E. Desmond Lee and Family Fund Endowed Professor of Plant Science*
Ph.D., University of Kentucky
Lon A. Wilkens, Professor*
Ph.D., Florida State University
Shirley T. Bissen, Associate Professor*, Director Biochemistry and 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 Emeritus*
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*
Ph.D., University of Wisconsin
Jane A. Starling, Associate Professor Emeritus*
Ph.D., The William Marsh Rice University
Colin MacDiarmid, Assistant Professor*
Ph.D., University of Aukland
Lisa M. Schechter, Assistant Professor*
Ph.D. Harvard University
Wendy M. Olivas, Assistant Professor*
Ph.D., University of Nebraska Medical Center
Marc Spingola, Assistant Professor*
Ph.D., University of New Mexico
Bethany K. Zolman, Assistant Professor*
Ph.D., Rice University
Mariette P. Baxendale, Lecturer
Ph.D., Saint Louis University
Carol Weber, Lecturer, Undergraduate Advisor
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. Al Shehbaz, Research Associate Professor*
Ph.D., Harvard University
Bruce Allen, Research Associate Professor*
Ph.D., University of Cincinnati
Eldridge Bermingham, 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 Universitet
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 Universitet
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, International Center for Tropical Biology, 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
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.

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 that 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 4905, Research.
3) Complete an honors thesis based on Biology 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 two broad areas of biology: a) cellular, molecular, and developmental biology, or b) 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 the 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. 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 1.

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. Some Biology courses may be used to meet the science and mathematics requirement of the university.

Candidates for the B.A. degree must fulfill the foreign language requirement of the College of Arts and Sciences. 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 biology, chemistry, physics, and mathematics.

Non-major biology courses
The following 1000 level biology courses do not count toward the biology credit hours required for a major in biology. Moreover, if biology majors take these courses, they are treated as biology courses when computing the 70 credit hours outside of biology needed to be included in the 120 total credit hours required for graduation.

1102, Human Biology
1131, Human Physiology and Anatomy I
1141, Human Physiology and Anatomy II
1162, General Microbiology
1202, Environmental Biology
1850, Global Ecology

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. Transfer student must satisfactorily complete at least 12 credit hours of UM-St. Louis biology course work (including one laboratory) at the 2000 level or above before receiving a B.A. degree from the College of Arts and Sciences with a major in biology.

Lecture and Seminar Course Requirements

1) Core Courses. The following biology courses or their equivalents are required:

1811, Introductory Biology: From Molecules to Organisms
1821, Introductory Biology: Organisms and the Environment
2012, Genetics
3302, Introduction to Evolution
3622, Cell Biology
4889, Senior Seminar, or **4985** and **4986** for those seeking teacher certification.

One of the following diversity courses:
2402, Vertebrate Biology or
2442, Invertebrate Biology or
2482, Microbiology or
2501, Biology of Plants or
4402, Ornithology or
4422, Entomology or
4482, Parasitology or
4501, Flowering Plants Families

2) Elective Courses. Three additional biology lecture courses, at the 2000 level or higher are required. They may be selected from any of the lecture or lecture-laboratory courses offered. Selection of these courses should reflect the career interest of the student. Biology courses taken to fulfill basic skill requirements (e.g., statistics requirement or biochemistry option) can be used to satisfy this requirement.

At least two biology lecture courses taken as part of the **core** or as **electives** must be at the 4000 level or higher No more than one of these higher level courses can be used to fulfill other requirements (e.g., diversity or statistics requirements, or biochemistry option).

Laboratory Course Requirements
Three biology laboratory courses at the 2000 level or higher are required. They may be taken from any of the lecture-laboratory or laboratory courses offered. Two credit hours of Biol 4905 can be used to fulfill one laboratory requirement. Students may take Chem 4733 to satisfy one of these laboratory course requirements, but students may not use both Biol 4713 and Chem 4733 to fulfill this requirement.

Basic Skills Requirement
A well-rounded biologist needs certain skills outside the biology subject matter. 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 requirement.

Writing
Eng 3100, Advanced Expository Writing or
Eng 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:

Phys 1011, Basic Physics
Phys 1012, Basic Physics

Chem 1111, Introductory Chemistry I or
[**Chem 1082** and **Chem 1091**]
Chem 1121, Introductory Chemistry II
Chem 2612, Organic Chemistry I

One of the following:
Chem 2223, Quantitative Analysis or
Chem 2622, Organic Chemistry II or
Chem 2633, Organic Chemistry Laboratory or
Biol/Chem 4712, Biochemistry

Math 1310, College Algebra
Math 1035, Trigonometry
Math 1100, Basic Calculus or
Math 1800, Analytical Geometry and Calculus

One of the following:
Biol 4122, Biometry or
Math 1310, Elementary Statistical Methods or
Math 1320, Applied Statistics I or
Ed Rem 5730, Educational Statistics or
Psych 2201, Psychological Statistics

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 core courses and general education requirements as those seeking the Bachelor of Arts degree, as well as addition requirements in depth of study, laboratory experience, communication skills, and background in associated science areas. Candidates must have a cumulative grade point average of 2.0 or better in biology courses.

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 44 hours but not more than 50 hours must be completed in appropriate biology course work. Transfer students must satisfactorily complete at least 17 credit hours of UM-St. Louis biology course work (including two laboratory courses) at the 2000 level or higher before receiving a B.S. degree in biology.

Lecture and Seminar Course Requirements

1) Core Courses. The following biology courses or their equivalents are required:

1811, Introductory Biology: From Molecules to Organisms
1821, Introductory Biology: Organisms and the Environment
2012, Genetics
3302, Introduction to Evolution
3622, Cell Biology
4889, Senior Seminar or **4985** and **4986** for those seeking teacher certification.

One of the following diversity courses:
2402, Vertebrate Biology or
2442, Invertebrate Biology or
2482, Microbiology or
2501, Biology of Plants or
4402, Ornithology or
4422, Entomology or
4482, Parasitology or
4501, Flowering Plants Families

2) Elective Courses. Four additional biology lecture courses at the 2000 level or higher are required. They may be selected from any of the lecture or lecture-laboratory courses offered. Selection of these courses should reflect the career interest of the student. Biology courses taken to fulfill basic skill requirements (e.g., statistics requirement or biochemistry option) can be used to satisfy this requirement.

At least three biology lecture courses taken as part of the **core** or as **electives** must be at the 4000 level or higher. No more than two of these higher level courses can be used to fulfill other requirements (e.g., diversity or statistics requirements, or biochemistry option).

Laboratory Course Requirements
Four biology laboratory courses at the 2000 level or higher are required. They may be selected from any of the lecture-laboratory or laboratory courses offered. Two credit hours of Biol 4905 can be used to fulfill one laboratory requirement. Students may take Chem 4733 to satisfy one of these laboratory course requirements, but students may not use both Biol 4713 and Chem 4733 to fulfill this requirement.

Basic Skills Requirement
A well-rounded biologist needs certain skills outside the biology subject matter. 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 both formal speaking and writing are required for development of the basic communication skills needed to transmit scientific information. The following courses satisfy this requirement:

Formal Speaking
Comm 1040, Introduction to Public Speaking

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

2) Associated Science Area: The following courses or their equivalents must be successfully completed:

Phys 1011, Basic Physics
Phys 1012, Basic Physics

Chem 1111, Introductory Chemistry I, or
[**Chem 1082** and **Chem 1091**]
Chem 1121, Introductory Chemistry II
Chem 2612, Organic Chemistry I
Chem 2622, Organic Chemistry II or
Biol/Chem 4712, Biochemistry
Chem 2223, Quantitative Analysis or
Chem 2633, Organic Chemistry Laboratory

Math 1030, College Algebra
Math 1035, Trigonometry
Math 1100, Basic Calculus, or
Math 1800, Analytic Geometry and Calculus I
One of the following:
Biol 4122, Biometry or
Math 1310, Elementary Statistical Methods or
Math 1320, Applied Statistics I or
Ed Rem 5730, Educational Statistics or
Psych 2201, Psychological Statistics

One of the following:
Phil 2256, Bioethics or
Phil 3380, Philosophy of Science

Research Opportunity
All students acquiring a bachelor of science degree are strongly encouraged to complete a minimum of 2 credit hours of undergraduate research, Biol 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.

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 Biol 4985, Curriculum and Methods of Teaching Life Sciences, and Biol 4986, Laboratory in Teaching Life Sciences, are substituted for Biol 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 Biol 4889, Senior Seminar, and in addition, completing the following courses:

Psych 1003, General Psychology
Ed Fnd 1111, The School in Contemporary Society
English 3160, Writing in the Sciences
History 1001, 1002, or 1003, American Civilization
PolSci 1100, Introduction to American Politics
Philosophy 3380, Philosophy of Science
Comm 1040, Introduction to Public Speaking
Theater 1210, Fundamentals of Acting
Geology 1001, General Geology
Atmospheric Science 1001, Elementary Meteorology
Ed Psy 3312, The Psychology of Teaching and Learning
Ed Tec 2248, Utilization of Computer-Based Materials in Instruction
Sec Ed 3213, Techniques of Secondary School Teaching and Field Experience or
Tch Ed 3310, Introduction to Instructional Methods
Spec Ed 3313, The Psychology and Education of Exceptional Individuals
Sec Ed 4391, Teaching Reading in Secondary School

Content Areas
Biology 4985, Curriculum and Methods of Teaching Life Sciences
Biology 4986, Laboratory in Teaching Life Sciences
Sec Ed 3290, Secondary School Student Teaching
Biology 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:
Biol 1811, Introductory Biology: From Molecules to Organisms, **Biol 1821,** Introductory Biology: Organisms and the Environment, and **Biol 2102,** Genetics. Two additional courses totaling no less than 6 credit hours. At least one course should be at the 3000 level or above.

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 the prescribed course of study and substitute a group of courses that exhibit a coherent area of specialization to coordinate with a career objective. Such a candidate must receive prior approval by the biology department to pursue this program.

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.**

Undergraduate Certificate in Biochemistry
The university offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization that may be earned within either a **biology** major or a **chemistry** major. To earn the certificate, biology majors must enroll in the Biochemistry Certificate Program upon the completion of 60 credit hours, fulfill all the science (biology, chemistry, math, and physics) course requirements for the B.S. degree in biology, and successfully complete the following courses:

Chem 2622, Organic Chemistry II
Biol/Chem 4712, Biochemistry
Chem 2223, Quantitative Analysis
Chem 2633, Organic Chemistry Laboratory
Biol 4713, Techniques in Biochemistry **or**
Chem 4733, Biochemistry Laboratory
Chem 4722, Advanced Biochemistry
And **three** of the following **biology** courses:
2482, Microbiology
2483, Microbiology Laboratory
3642, Development
4602, Molecular Biology
4612, Molecular Genetics of Bacteria
4614, Biotechnology Laboratory I
4622, Molecular Cell Biology
4632, Nucleic Acid Structure and Function
4842, Immunobiology

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, and developmental biology. To earn the certificate, biology majors must enroll in the Biotechnology Certificate Program upon the completion of 60 credit hours, fulfill all the science (biology, chemistry math, and physics) course requirements for the B.S. degree in biology, and successfully complete the following courses:

Biol 2013, Genetics Laboratory
Biol 2482, Microbiology
Biol 2483, Microbiology Laboratory
Chem 2622, Organic Chemistry II
Biol 4614, Biotechnology Laboratory I
Biol/Chem 4712, Biochemistry
Biol 4713, Techniques in Biochemistry **or**
Chem 4733, Biochemistry Laboratory

One of the following courses:
Biol 4602, Molecular Biology
Biol 4612, Molecular Genetics of Bacteria

And **one** of the following courses:
Biol 4615, Biotechnology Laboratory II
Biol 4622, Molecular Cell Biology
Biol 4632, Nucleic Acid Structure and Function
Biol 4652, Virology
Biol 4842, Immunobiology
Chem 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
2102, General Ecology
3202, Conservation Biology
3203, Conservation Biology Laboratory
4299, Practicum in Conservation

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
2120, Native Peoples of North America
2131, Archaeology of Missouri
2132, Archaeology of North America

Biology
3122, Tropical Resource Ecology
3123, Tropical Resource Ecology Field Studies
4102, Behavioral Ecology
4112, Evolution of Animal Sociality
4182, Population Biology
4202, Wildlife Ecology and Conservation
4203, Wildlife Ecology and Conservation Laboratory
4245, Field Biology
4382, Introduction to Marine Science
4402, Ornithology
4403, Ornithology Laboratory
4422, Entomology
4423, Entomology Laboratory
4501, Flowering Plant Families: Phylogeny and Diversification

Economics
3300, International Economic Analysis
3301, Intermediate Economic Theory: Microeconomics
4550, Natural Resource Economics

History
3000, Selected Topics, when relevant

Political Science
3480, Environmental Politics
3590, Studies in Comparative Politics, when relevant
3850, International Organizations and Global Problem Solving
4510, Comparative Public Policy and Administration

Social Work
3900, Seminar in Social Work, when relevant
Sociology
3420, World Population and Ecology
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.

UMSL –Logan College (3+3 program)

The Biology Department has developed a 3+3 articulation agreement with Logan College of Chiropractic. This program enables qualified students the opportunity to complete a Bachelor of Science degree in Biology for the University of Missouri – St. Louis as well as a Doctor of Chiropractic for Logan College of Chiropractic in six years.

- **The program is only open to students who enter UMSL as first-time freshmen.**
- Participants must complete their first 90 hours of college work (3 years) at UMSL following a prescribed curriculum.
- Participants who have achieved at least 3.25 GPA at UMSL will automatically be granted admission by Logan College of Chiropractic.
- After successfully completing an additional 30 credit hours (4th year) at Logan, a student will receive a BS in Biology degree from UMSL.
- After completing two additional years at Logan, the student will receive a doctorate in chiropractic.
- The acceptance of transfer credits or testing toward completion of degree requirements shall be governed by current policies of UMSL. However, no more than 20 credits of required courses, and NONE of the science credits

required for admission to LCC may be earned via examination or transfer from another school.

- LCC shall accept, for the entrance date of their choice, all students who successfully complete the Pre-Chiropractic Program with a cumulative GPA of 3.25 or higher and meet all other criteria for admission.
- Students who earn less than a 3.25 GPA, but at least a 2.50 GPA, will be eligible for admission to LCC, and will receive appropriate consideration in the admission process for having completed the UMSL Pre-Chiropractic Program, but will not receive the assurance of a seat reserved for students earning a 3.25 or higher GPA.
- Students will make application to LCC one year in advance of their desired entrance date and will complete all required application procedures thereafter in a timely manner, including submission of recommendation and a satisfactory interview.

This program offers benefits to students (six years instead of seven from high school to doctorate). The University of Missouri courses are listed below:

General Education Requirements (33):
Humanities (9) Select from General Education List
Social Sciences (One course must be a Psychology) (9)
Select from General Education List of courses meeting Social Science Gen. Ed requirements.
American History & Government (3)

Choose (3):
Statistics 1310 – Elementary Statistical Methods; **or**
Statistics 1320 – Applied Statistics I **or**
Biology 4122 – Biometry
Communication 1040 – Introduction to Public Speaking (3)
English 1100 – Freshman Composition (3)
English 3160 – Writing in the Sciences (3)
Cultural Diversity Requirement (3)

Major (58):
Foundation courses
Biology 1811 – Introductory Biology: From Molecules to Organisms (5)
Biology 1821 – Introductory Biology: Organisms and the Environment (5)
Biology 2012 – Genetics (3)
Biology 2482 – Microbiology (3)
Biology 3622 – Cell Biology (3)
Biology 3302 – Introduction to Evolution (3)
Biology/Chemistry 4712 – Biochemistry (3)
Biology 4889 – Senior Seminar (2)
Physics 1011 – Basic Physics (4)
Physics 1012 – Basic Physics (4)
Chemistry 1111 – Introductory Chemistry I (5)
Chemistry 1121 – Introductory Chemistry II (5)
Chemistry 2612 – Organic Chemistry I (3)
Chemistry 2622 – Organic Chemistry II (3)
Chemistry 2633 – Organic Chemistry Laboratory (2)
Philosophy 2256 – Bioethics (3)
Mathematics 1030 – College Algebra (3)
Mathematics 1035 – Trigonometry (2)
Choose (3-5):
Mathematics 1100 – Basic Calculus (3); **or**
Mathematics 1800 – Analytical Geometry & Calculus I (5)

The remaining 30 hours to be taken at Logan include:

Transfer Credits (34):
Anatomy I / Lab (6)
Spinal Anatomy / Lab (5)
Biochemistry I / Lab (4)
Histology / Cell Biology / Lab (5)
Anatomy II / Lab (6)
Neuroanatomy / Lab (5)
Biochemistry II (4)
Physiology I (4)
Microbiology / Lab (4)

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, both the non-thesis or thesis option may be developed into a final degree program in either of two broad areas in biology: 1) Cell and Molecular Biology or 2) Ecology, Evolution, and Systematics.

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 a minimum grade point average overall and in biology courses of 3.0 (where A = 4.0).
All foreign applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 213 on the computer-based exam (550 on the paper-based exam) 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 Biol 4920 Selected Topics can be given to graduate students for Biol 2012 or Biol 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 Biol 6889, Graduate Seminar.

Non-thesis Option
Including the general requirements, students must take at least 30 graduate credit hours, of which at least half must be at the 5000 or 6000-level. Students are encouraged to take a laboratory course (4000 level or higher) or 2 credit hours of Biol 6905, Graduate Research. A maximum of 5 credit hours of Biol 6905, will be counted toward the 30 credit hour total. This research may be conducted in the laboratory or the field.

Thesis Option
Including the general requirement, students must take at least 30 graduate credit hours, of which at least half must be at the 5000 or 6000 level. No more than 13 hours of Biol 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 Biol 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 Biol 4920 Selected Topics can be given to graduate students for Biol 2012 or Biol 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 graduate credit hours. At least 30 of

the 60 hours must be taken at the 5000 or 6000 level. With the explicit consent of the advisory committee, students may take for graduate credit up to 3 credit hours of 3000 level courses in allied departments. Courses in biology at the 3000 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:
Biol 4122 (3 hours), Biometry, or equivalent course in statistics.
Biol 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:

Biol 6889, Graduate Seminar: 10 hours
Biol 6905, Graduate Research: 30 hours

A combination of 6 total credit hours of the following:

Biol 5059, Topics in Ecology, Evolution, and Systematics
Biol 5069, Topics in Cellular and Molecular Biology
Biol 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
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.

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 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.

Requirements

I. Biology 6615, Advanced Biotechnology Laboratory II

II. Biology 6602, Advanced Molecular Biology **or** **Biology 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
4712, Biochemistry
4842, Immunobiology
5069, Topics in Cellular and Molecular Biology
5842, Advanced Immunology
6622, Advanced Molecular Cell Biology
6632, Advanced Nucleic Acid Structure and Function
6642, Advanced Plant Molecular Biology and Genetic Engineering
6652, Advanced Virology
6699, Graduate Internship in Biotechnology
6889, Graduate Seminar, when relevant

Chemistry
4722, Advanced Biochemistry
4733, Biochemistry Laboratory

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 5000 or 6000 level. Up to 3 credits may be taken at the 2000 - 3000 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 UM-St. Louis. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the certificate when appropriate.

Required Core Courses:
Biology 6250, Public Policy of Conservation and Sustainable Development
Biology 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:
Biology 6212, Theory and Application of Conservation Biology
Biology 6222, Advanced Tropical Ecology and Conservation
Electives:

Biology
4382, Introduction to Marine Science
4182, Population Biology
4202, Wildlife Ecology and Conservation
4402, Ornithology
4422, Entomology
4501, Flowering Plant Families Phylogeny and Diversification
5122, Advanced Tropical Resource Ecology
5123, Advanced Tropical Resource Ecology Field Studies
5192, Community Ecology
6102, Advanced Behavioral Ecology
6112, Advanced Evolution of Animal Sociality
6182, Advanced Population Biology
6192, Applications of Geographic Information Systems
6212, Theory and Application of Conservation Biology
6222, Advanced Tropical Ecology and Conservation
6889, Graduate Seminar, when relevant

Economics
3300, International Economic Analysis
3301, Intermediate Economic Theory: Microeconomics
4550, Natural Resource Economics

History
3000, Selected Topics in History, when relevant
3201, History of Latin America: to 1808
3202, History of Latin America: Since 1808
3302, West Africa Since 1800
6114, Readings in Latin American History, when relevant
6115, Readings in African History, when relevant

Political Science
2530, Political Systems of South America
2540, Political Systems of Mexico, Central America, and the Caribbean
2580, African Politics
3480, Environmental Politics
3590, Studies in Comparative Politics, when relevant
3830, International Political Economy
3850, International Organizations and Global Problem Solving
3890, Studies in International Relations
4470, Introduction to Environmental Law and Policy
4510, Comparative Public Policy and Administration
4850, International law
4940, Leadership and Management in Nonprofit Organizations
6414, Topics in Public Policy Analysis, when relevant
6448, Political Economy and Public Policy
6459, Seminar in Latin American Politics, when relevant
6462, Political Theory and Public Policy
6490, Seminar in International Relations

Social Work
4950, Seminar in Social Work Issues, when relevant

Sociology
4342, World Population and Ecology
4646, Demographic Techniques
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, 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 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 Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

1012, 1013, 1081, 1102, 1131, 1141, 1162, 1202, 1811, 1821, 2012, 2013, 2102, 2103, 2402, 2403, 2442, 2443, 2482, 2483, 2501, 3102, 3103, 3122, 3123, 3182, 3183, 3202, 3203, 3302, 3622, 3642, 3643, 3802, 3803, 3920, 4102, 4112, 4122, 4162, 4182, 4202, 4203, 4222, 4245, 4402, 4403, 4422, 4423, 4482, 4501, 4532, 4552, 4602, 4612, 4614, 4615, 4622, 4632, 4642, 4652, 4712, 4713, 4822, 4842, 4889

1012 General Biology (3), [MS]
Emphasis on fundamental principles of biology. Biol 1012 can be applied toward fulfillment of the general education requirement in science. Biol 1012 does not satisfy the prerequisite requirements in other courses in biology at the 2000 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions should enroll in Biol 1811 rather than Biol 1012. Three hours of lecture per week.

1013 General Biology Laboratory (2), [MS]
Prerequisite: Biol 1012 (may be taken concurrently). Laboratory course to accompany Biol 1012. Biol 1013 can be used to fulfill the general education requirements in a laboratory science. Biol 1013 does not meet the prerequisite requirements for other courses in biology. Three and one-half hours of laboratory per week.

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.

1131 Human Physiology and Anatomy I (4), [MS]
Prerequisite: Biol 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.

1141 Human Physiology and Anatomy II (4), [MS]
Prerequisite: Biol 1131. A continuation of Biol 1131. A study of the basic aspects of human physiology and anatomy. Three hours of lecture and two hours of laboratory per week.

1162 General Microbiology (3), [MS]
Prerequisite: Biol 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.

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.

1811 Introductory Biology: From Molecules to Organisms (5), [MI, MS]
Prerequisites: A minimum of high school chemistry, Engl 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 2000 level or above. 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.

1821 Introductory Biology: Organisms and the Environment (5), [MI, MS]
Prerequisites: A minimum of high school chemistry, Engl 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 2000 level or above. 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 lab and one hour of discussion per week.

1850 Global Ecology (3), [V, SS, MS]
Prerequisite: None. Must be taken concurrently with Pol Sci 1850 for 3 hours of Biol credit and 3 hours of Pol Sci credit. A course team-taught by the Biology and Political Science departments, combining 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, energy use, use and conservation of natural resources, human population ecology 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. This course does not count towards a major or minor in Biology.

2012 Genetics (3)
Prerequisite: Biol 1811[majors must also take Biol 1821] and Chem 1111 or [Chem 1082 plus Chem 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.

2013 Genetics Laboratory (2)
Prerequisite: Concurrent registration in Biol 2012, or by consent of instructor. Laboratory to accompany Biol 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.

2102 General Ecology (3)
Prerequisite: Biol 1811 and 1821. An examination of the relationships between living organisms and their environment. Three hours of lecture per week.

2103 General Ecology Laboratory (2)
Prerequisite: Biol 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.

2402 Vertebrate Biology (3)
Prerequisite: Biol 1811and 1821. Development, structure, function, interrelationships, and zoogeography of vertebrate animals with particular attention to phylogenetic aspects. Three hours of lecture per week.

2403 Vertebrate Biology Laboratory (2)
Prerequisite: Biol 2402 (may be taken concurrently). Laboratory to accompany Biol 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.

2442 Invertebrate Biology (3)
Prerequisite: Biol 1811 and 1821. A general introduction to the form, function and biodiversity of animals, 95% of which lack backbones. The course focuses on the evolution and phylogenetic interrelationships of animals from single-cell protozoans to the giant squid, with an emphasis on fresh water and marine (non insect) invertebrates. Three hours of lecture per week.

2443 Invertebrate Biology Laboratory (2)
Prerequisite: Biol 2442 (may be taken concurrently). Laboratory to accompany Biol 2442. Analysis of invertebrates structure and function with emphasis on the feeding and locomotory behavior of live animals. Students will collect and study animals in habitats ranging from UMSL's Bugg Lake to the Gulf of Mexico. The course meets three and one-half hours per week and includes a one-week field trip to a marine laboratory in Florida. Students will be responsible for expenses they incur.

2482 Microbiology (3)
Prerequisite: Biol 1811 [majors must also take Biol 1821] and Chem 1111 [or Chem 1082 plus Chem 1091]. Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

2483 Microbiology Laboratory (2)
Prerequisite: Biol 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.

2501 Biology of Plants (5)
Prerequisites: Biol 1811 and 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.

3102 Animal Behavior (3)
Prerequisite: Biol 1811 and 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.

3103 Animal Behavior Laboratory (2)
Prerequisite: Biol 3102 (may be taken concurrently) and any college level course in introductory statistics (may not 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.

3122 Tropical Resource Ecology (3)
Prerequisite: Biol 2102 and either Biol 3302 or 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 Biol 3122 and 5122. Three hours of lecture per week. Offered in odd numbered years.

3123 Tropical Resource Ecology Field Studies (2)
Prerequisite: Biol 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 Biol 3123 and Biol 5123. Offered in odd numbered years.

3202 Conservation Biology (3)
Prerequisite: Biol 1811 and 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.

3203 Conservation Biology Laboratory (2)
Prerequisites: Biol 3202 (recommended to be taken concurrently). Laboratory to accompany Biol 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.

3302 Introduction to Evolution (3)
Prerequisite: Biol 1811 and 1821; Biol 2012 strongly recommended. Introduction to the theory, events, and processes of organic evolution.

3622 Cell Biology (3)
Prerequisite: Biol 1811[majors must also take Biol 1821], Chem 1111, 1121 and 2612 or equivalents. Examination of the basic biological processes of cells.

3642 Developmental Biology (3)
Prerequisites: Biol 1811 and 1821. Basic principles of developmental biology, with an emphasis on the underlying cellular and molecular mechanisms.

3643 Developmental Biology Laboratory (2)
Prerequisite: Biol 3642 (recommended to be taken concurrently). Laboratory to accompany Biol 3642. Three and one-half hours of laboratory per week.

3699 Undergraduate Internship in Biotechnology (1-4)
Prerequisite: Biol 1811 and 1821, Chem 1111 and 1121 and consent of instructor. Concurrent enrollment in Chem 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.

3802 Vertebrate Physiology (3)
Prerequisite: Biol 1811 and 1821 and Chem 1111 or Chem 1082 plus Chem 1091. Basic functional aspects of organ systems in relation to the physiochemical properties of protoplasm. Three hours of lecture per week.

3803 Vertebrate Physiology Lab (2)
Prerequisite: Biol 3802 (may be taken concurrently). Instrumental and experimental studies in physiology. Three and one-half hours of laboratory per week.

3920 Special Topics in Biology (1-5)
Prerequisites: Biol 1811 and 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.

4102 Behavioral Ecology (3)
Prerequisite: Biol 3102; Biol 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 Biol 4102 and 6102.

4112 Evolution of Animal Sociality (3)
Prerequisite: Biol 3102 or consent of instructor, Biol 2102 or 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 Biol 4112 and 6112.

4122 Biometry (3)
Prerequisite: Math 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.

4162 Evolutionary Ecology (3)
Prerequisites: Biol 3302 and 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 Biol 4162 and 6162.

4182 Population Biology (3)
Prerequisite: Biol 2102 and 2012 (Biol 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 Biol 4182 and 6182.

4202 Wildlife Ecology and Conservation (3)
Prerequisite: Biol 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.

4203 Wildlife Ecology and Conservation Laboratory (2)
Prerequisite: Biol 4202 (may be taken concurrently) or consent of instructor. This course will provide field and laboratory experiences to accompany Biol 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.

4222 Tropical Ecology and Conservation (3)
Prerequisite: Biol 2102, 4182, 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 Biol 4222 and 6222. Three hours of lecture per week.

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 Biol 4245 and 6245.

4299 Practicum in Conservation (2)
Prerequisite: Biol 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.

4382 Introduction to Marine Science
Prerequisite: Consent of the instructor; Biol 2442 and 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.

4383 Introduction to Marine Science Laboratory (2)
Prerequisite: Biol 4382, 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 Summer Session I, following the lecture course Biol 4382 of the preceding winter semester. Students must pay their own travel and living expenses.

4402 Ornithology (3)
Prerequisite: Biol 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

4403 Ornithology Laboratory (2)
Prerequisite: Biol 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.

4422 Entomology (3)
Prerequisite: Biol 1811 and 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.

4423 Entomology Laboratory (2)
Prerequisite: Biol 4422 (may be taken concurrently). Laboratory to accompany Biol 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.

4482 Parasitology (3)
Prerequisite: Biol 1811, 1821, and 10 additional hours of biology and upper-division standing. Biol 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.

4501 Flowering Plant Families: Phylogeny and Diversification (5)
Prerequisites: Biol 1811, 1821 and junior standing 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.

4532 Sex and Evolution in the Flowering Plants (3)
Prerequisites: Biol 1811 or 1821 or equivalent; Biol 3302 or 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.

4552 Evolution and Phylogeny of Seed Plants (3)
Prerequisites: Biol 3302 or 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 Biol 4552 and Biol 6552.

4602 Molecular Biology (3)
Prerequisite: Biol 2012 and 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 both Biol 4602 and Biol 6602.

4612 Molecular Genetics of Bacteria (3)
Prerequisite: Biol 2482 and Biol 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 both Biol 4612 and Biol 6612.

4614 Biotechnology Laboratory I (4)
Prerequisite: Biol 2012 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 4000 level or above lecture course requirement for the B.A. or B. S. degree in biology. Students may not receive credit for Biol 4614 and a comparable biotechnology course from another institution.

4615 Biotechnology Laboratory II (4)
Prerequisite: Biol 4614 and either Biol 4602 or Biol 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 4000 level lecture course requirement for the B.A. or B.S. degree in biology.
Students may not receive credit for both Biol 4615 and Biol 6615.

4622 Molecular Cell Biology (3)
Prerequisites: Biol 4602, Biol 3622, and Biol 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 Biol 4622 and Biol 6622.

4632 Nucleic Acid Structure and Function (3)
Prerequisite: Biol 2012 and 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 Biol 4632 and 6632.

4642 Plant Molecular Biology and Genetic Engineering (3) Prerequisite: Biol 4602 or 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 Biol 4642 and 6642.

4652 Virology (3)
Prerequisite: Biol 2482 and 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 Biol 4652 and 6652.

4712 Biochemistry (3)
[Same as Chem 4712]. Prerequisite: Chem 2612 and either Biol 1811 or Chem 2622. Examines the chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Students may not receive credit for both Biol 4712 and Chem 4712.

4713 Techniques in Biochemistry (2)
Prerequisite: Biol 4712 or Chem 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.

4822 Introduction to Neuroscience (3)
Prerequisite: Biol 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.

4842 Immunobiology (3)
Prerequisite: Biol 4712 and Chem 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.

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.

4905 Research (1-3)
Prerequisite: Consent of faculty research advisor; generally restricted to junior and senior standing. Research in an area selected by the student in consultation with and under the supervision of a faculty research adviser. Research opportunities are subject to availability. The project normally includes the reading of pertinent literature, laboratory or field experience, and a summary paper. Credit arranged. Course may be repeated for a total of up to 5 credit hours. Any combination of 2 credit hours may be used to meet one laboratory course requirement. No more than 2 credit hours may be applied toward the minimum number of biology course credits for the major in biology.

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.

4980 Science in the Real World: Microbes in Action (2)
Prerequisites: Biol 1811 or Chem 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.

4985 Curriculum and Methods of Teaching Life Sciences (4)
[Same as Sec Ed 4985]. Prerequisite: Tch Ed 3310 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.

4986 Laboratory in Teaching Life Sciences (2)
[Same as SecEd 4986]. Prerequisite: Tch Ed 3310. Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biol 4985, SecEd 4985.

4999 Biology Science Teaching Intern Seminar (3)
[Same as Sec Ed 4999] Prerequisite: Biol 4985 and 4986. 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 4990.Not available for graduate credit.

5059 Topics in Ecology, Evolution, and Systematics (1)
Prerequisite: Graduate standing. Presentation and discussion of faculty and student current research projects in behavior, ecology, evolution, and systematics. May be repeated.

5069 Topics in Cellular and Molecular 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.

5079 Topics in Floristic Taxonomy (1)
Prerequisite: Biol 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.

5122 Advanced Tropical Resource Ecology (3)
Prerequisite: Biol 2102, and either Biol 3302 or Biol 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 Biol 3122 and Biol 5122. Three hours of lecture, and one hour of discussion or seminar per week. Offered in odd numbered years.

5123 Advanced Tropical Resource Ecology Field Studies (2)
Prerequisite: Biol 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 Biol 5123 and Biol 3123. Offered in odd numbered years.

5192 Community Ecology (3)
Prerequisite: Graduate standing and either Biol 2102 and 4182 or an equivalent course. 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.

5312 Theory of Systematics (3)
Prerequisites: Biol 1811 and 1821 and at least one course beyond introductory level dealing with animal, plant, or microbial diversity (such as Biol 2482, 2501, 2402, 4482, 4501, 4402, or 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.

5842 Advanced Immunology (3)
Prerequisite: Biol 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.

5985 Problems in Teaching College Biology (3)
[Same as Adu Ed 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.

5986 Techniques in Teaching College Biology for Graduate Students (2)
[Same as Sec Ed 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.

6102 Advanced Behavioral Ecology (3)
Prerequisite: Biol 3102 (Biol 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, one hour discussion or seminar per week. Students may not receive credit for both Biol 4102 and 6102.

6112 Advanced Evolution of Animal Sociality (3)
Prerequisite: Biol 2102, or 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 Biol 4112 and Biol 6112.

6162 Advanced Evolutionary Ecology (3)
Prerequisites: Biol 3302 and 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 Biol 4162 and 6162.

6182 Advanced Population Biology (3)
Prerequisites: Biol 2102 and 2012, (Biol 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 Biol 4182 and 6182.

6192 Applications of Geographic Information Systems (3)
Prerequisite: Biol 2102, Biol 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.

6212 Theory and Application of Conservation Biology (3)
Prerequisite: Biol 4182,5192, 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.

6222 Advanced Tropical Ecology and Conservation (3)
Prerequisite: Biol 2102, or 4182, or 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 Biol 4222 and 6222. Three hours of lecture per week.

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 Smokey 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 Biol 4245 and 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.

6250 Public Policy of Conservation and Sustainable Development (3)
[Same as Pol Sci 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 developing and developed economics.

6299 Internship in Conservation Biology (1-4)
Prerequisite: Biol 6250 or 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.

6552 Advanced Evolution and Phylogeny of Seed Plants (3)
Prerequisites: Biol 3302 or 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 Biol 4552 and Biol 6552.

6602 Advanced Molecular Biology (3)
Prerequisite: Biol 2012 and 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 both Biol 6602 and Biol 4602.

6612 Advanced Molecular Genetics of Bacteria (3)
Prerequisite: Biol 2012 and 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. Student may not receive credit for both Biol 6612 and Biol 4612.

6615 Advanced Biotechnology Laboratory II (4)
Prerequisite: Biol 4614 and either Biol 4602 or Biol 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 both Biol 6615 and Biol 4615.

6622 Advanced Molecular Cell Biology (3)
Prerequisite: Biol 4602, Biol 3622, and Biol 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 Biol 6622 and Biol 4622.

6632 Advanced Nucleic Acid Structure and Function (3)
Prerequisites: Biol 2012 and 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 Biol 4632 and 6632.

6642 Advanced Plant Molecular Biology and Genetic Engineering (3)
Prerequisite: Biol 4602 or 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. Student may not receive credit for both Biol 4642 and Biol 6642.

6652 Advanced Virology (3)
Prerequisite: Biol 2482 and 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 Biol 4652 and 6652.

6699 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 Biol 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.

6889 Graduate Seminar (2)
Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

6905 Graduate Research in Biology (1-10)
Research in area selected by student in consultation with faculty members.

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.

6920 Topics in Biology (2-5)
In-depth studies of selected topics in contemporary biology. May be repeated.

Department of Chemistry and Biochemistry

Faculty

Christopher D. Spilling, Professor*, Chairperson
Ph.D., The University of Technology, Loughborough
Lawrence Barton, Professor*
Ph.D., University of Liverpool
James S. Chickos, Professor*
Ph.D., Cornell University
Joyce Y. Corey, Professor*, Director of Graduate Studies
Ph.D., University of Wisconsin
Wesley R. Harris, Professor*
Ph.D., Texas A. and M. University
David W. Larsen, Professor Emeritus*
Ph.D., Northwestern University
Robert W. Murray, Curators' Professor Emeritus*
Ph.D., Yale University
James J. O'Brien, Professor*
Ph.D., Australian National 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
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
Alexei V. Demchenko, Assistant Professor*,
Ph.D., Zelinsky Institute for Organic Chemistry, Moscow
Michael R. Nichols, Assistant Professor
Ph.D., Purdue University
Janet B. Wilking, Assistant Professor*
Ph.D., Washington University
Chung F. Wong, Assistant Professor
Ph.D., University of Chicago
Joseph D. Dence, Adjunct Associate Professor
Ph.D. California Institute of Technology
Rensheng Luo, Research Assistant Professor
Ph.D., Wahan Institute of Physics and Mathematics
Chinese Academy of Sciences
Anthony Mannino, Adjunct Associate Professor
Ph.D., Ohio State University
Robert G. Orth, Adjunct Associate Professor
Ph.D., Case Western Reserve University
Nigam P. Rath, Research Professor
Ph.D., Oklahoma State University
John Gutweiler, Lecturer
Ph.D., Saint Louis University

Technical Staff

Kenneth Owens, Glassblower
Joseph Kramer, Spectrometrist
Mark Regina, 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 following baccalaureate degrees:
B.A. in Chemistry
B.A. in Chemistry with a Biochemistry Certificate
B.S. in Chemistry (with a Chemistry or Biochemistry Option)
B.S. in Education with an emphasis in Chemistry (in cooperation with the College of Education)
B.A. in Chemistry with teacher certification.

The department is accredited by the American Chemical Society. Students completing the B.S. degree (chemistry or biochemistry option) are certified to the American Chemical Society. The B.S. degree is the professional degree in chemistry, and students who earn the B.S. degree are well prepared for a career in the chemical industry or for graduate work in chemistry. The department provides opportunities for undergraduates to become involved in ongoing research projects and to participate in departmental teaching activities.

The department also offers graduate work leading to the M.S. or Ph.D. degree in chemistry with most graduate courses being scheduled in the evening. A student may earn a M.S. degree with or without a thesis. The non-thesis option provides a convenient way for students who are employed full-time to earn an advanced degree. Research leading to a M.S. thesis or Ph.D. dissertation may be conducted in one of four emphasis areas, namely, inorganic chemistry, organic chemistry, physical chemistry, or biochemistry. The nature of the graduate program allows each student to receive individualized attention from his/her research mentor, and to develop hands-on experience with major instrumentation in the department.

Fellowships and Scholarships
The following scholarships, fellowships and awards are available to chemistry majors:

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.

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 Introductory 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.

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 Chem 3905, Chemical Research, and must present an acceptable thesis.

Career Outlook
The St. Louis metropolitan area has long been a major center for industrial chemistry, and in the past decade it has become a focus for the establishment of life sciences research and development. A bachelor's degree in chemistry provides a student with the professional training needed to play a part in this ever-changing industry.

A major in chemistry provides excellent preprofessional training in the health sciences, and 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 qualification and training for a position as a laboratory technician in industry, hospital laboratories, etc.

A Master's degree in chemistry is often required for further advancement in the chemical industry, whereas a doctoral degree opens the door to many opportunities, including careers in the academic world, industrial research and development, and in government laboratories. take the 2 elective hours in chemistry on this option.

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. B.S. degree candidates are not required to take a foreign language: however, the American Chemical Society (ACS) states that the study of a foreign language is highly recommended, especially for students planning to pursue graduate studies in chemistry.

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

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:

1111, Introductory Chemistry I
1121, Introductory Chemistry II
2223, Quantitative Analysis
2612, Organic Chemistry I
2622, Organic Chemistry II
2633, Organic Chemistry Laboratory
3022, Introduction to Chemical Literature
3312, Physical Chemistry I
3322, Physical Chemistry II
3333, Physical Chemistry Laboratory
3412, Basic Inorganic Chemistry
4897, Seminar (1 credit)

In addition, candidates must complete one laboratory course chosen from Chem 3643, 4233, 4343, 4433, or 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
4712, Biochemistry
4722, Advanced Biochemistry
4733, Biochemistry Laboratory
4764, Interdisciplinary Topics in Biochemistry **or**
4772, Physical Biochemistry

Biology
1811, Introductory Biology: From Molecules to Organisms
2012, Genetics
3622, Cell Biology
4602, Molecular Biology **or**
4614, Biotechnology Laboratory I

Students may obtain a minor in biology by adding Biol 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:

3643, Advanced Organic Chemistry Laboratory
4212, Instrumental Analysis
4233, Laboratory in Instrumental Analysis
4343, Physical Chemistry Laboratory II
4412, Inorganic Chemistry I
4433, Inorganic Chemistry Laboratory
4712, Biochemistry
Students must also take two elective hours of advanced work in chemistry at the 3000 level or above. Students are encouraged to take Chem 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
4212, Instrumental Analysis
4233, Laboratory in Instrumental Analysis
4412, Inorganic Chemistry I
4712, Biochemistry
4722, Advanced Biochemistry
4733, Biochemistry Laboratory
4764, Interdisciplinary Topics in Biochemistry, **or**
4772, Physical Biochemistry **or**
3 credits of Chemistry 3905: Chemical Research, **or** 3 credits of Biology 4905: Research.

Biology
1811, Introductory Biology: From Molecules to Organisms
2012, Genetics or
3622, Cell Biology

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 1800, Analytic Geometry and Calculus I
Math 1900, Analytic Geometry and Calculus II
Math 2000, Analytic Geometry and Calculus III
Physics 2111, Physics: Mechanics and Heat
Physics 2112, 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 3380, Philosophy of Science
Biology 1811, Introductory Biology I: From Molecules to Organisms

Biology 1821, Introductory Biology II: Organisms and the Environment
Chemistry 1111, Introductory Chemistry I
Chemistry 1121, Introductory Chemistry II
Geology 1001, General Geology
Atmospheric Science 1001, Elementary Meteorology
Biology 1202, Environmental Biology, **or** another environmental science
Physics 2111, Physics: Mechanics and Heat
Physics 2112, Physics: Electricity, Magnetism, and Optics
Chemistry Endorsement
Chemistry 2223, Quantitative Analysis
Chemistry 2612, Organic Chemistry I
Chemistry 2622, Organic Chemistry II
Chemistry 2633, Organic Chemistry Laboratory
Chemistry 3312, Physical Chemistry I
Chemistry 4712, Biochemistry
Chemistry 4802 or Education 3240, Methods of Teaching Science in Secondary Schools
Chemistry 4837, Teaching Intern Seminar

Bachelor of Arts in Chemistry with Teacher Certification Students must complete the B.A. in chemistry requirements, as well as the requirements for 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:

1111, Introductory Chemistry I
1121, Introductory Chemistry II
2223, Quantitative Analysis
2612, Organic Chemistry I
2633, Organic Chemistry Laboratory

One course from the following list must be completed:

2622, Organic Chemistry II
3312, Physical Chemistry I
3412, Basic Inorganic Chemistry
4712, Biochemistry same as Biology 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.

Bachelor of Science in Biochemistry and Biotechnology
The Department of Chemistry and Biochemistry, in cooperation with the Department of Biology, offers a Bachelor of Science degree in Biochemistry and Biotechnology. Information about this degree program may be found at http://www.umsl.edu/~biotech.

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 may request to transfer to the Ph.D. program by petition to the department.

The department admissions committee 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
All graduate students (M.S. and Ph.D.) must fulfill the distributing requirements as described under "Doctoral Degree Requirements."

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, normally including 3 hours in Chem 6897 Chemistry Colloquium. No more than 3 hours in Chem 6897 may be applied toward the required minimum of 30 credit hours.

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 6905, Graduate Research in Chemistry, and conduct their thesis research. A maximum of 12 hours of Chem 6905 may be applied toward the required 30 hours. At least 9 hours must be at the 5000 level, excluding Chem 6905. A maximum of 9 hours in 3000 level or above courses outside the department may be accepted if students receive prior approval of their advisers and the Director of Graduate Studies. 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 5000 level. A maximum of 6 credits of Chem 6905, Graduate Research in Chemistry, may be included in place of 4000 level courses. A maximum of 12 hours taken in 3000 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.

Distribution Requirement
Students must take chemistry courses for graduate credit at the 4000 and 5000 levels. Students may choose to concentrate the majority of their coursework in one of four areas (biochemistry, inorganic chemistry, organic chemistry, or physical chemistry). Students must complete at least 6 hours of chemistry coursework in one (or more) sub-disciplines(s) outside of their major emphasis area. The following courses may not be used to fulfill the distribution requirement: Chem. 4212, 4233, 4302, 4343, 4412, and 4433.

Qualifying Examinations
In addition to the requirements set forth by the Graduate School, each student seeking the Ph.D. degree must successfully complete a qualifying examination in his/her major area of specialization prior to advancement to candidacy. The format of the qualifying examination depends upon the student's major area of emphasis (biochemistry, inorganic, organic or physical). In general, the qualifying examination consists of either comprehensive written and/or oral examinations, usually administered near the end of the 4th semester, or a series of cumulative examinations given eight times a year. In the latter case, a student must pass a minimum of two cumulative examinations per year and eight cumulative examinations before the end of the 6th semester. At least six of these cumulative examinations must be in the student's major area of specialization. For more detailed information, contact the Director of Graduate Studies in the Department of Chemistry & Biochemistry.

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 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 4212, Instrumental Analysis
Chem 4233, Laboratory in Instrumental Analysis
Chem 4302, Physical Chemistry for the Life Sciences
Chem 4343, Physical ChemistryLaboratory II
Chem 4412, Inorganic Chemistry I
Chem 4433, Inorganic Chemistry Laboratory
Chem 6196, Advanced Reading in Chemistry
Chem 6487, Inorganic Problem Seminar
Chem 6687, Organic Problem Seminar
Chem 6787, Biochemistry Problem Seminar
Chem 6812, Introduction to Graduate Study in Chemistry
Chem 6822, Introduction to Graduate Research in Chemistry
Chem 6897, Chemistry Colloquium
but should include at least six credit hours of coursework outside of their major area of emphasis (see Distribution Requirement)
Courses in areas other than chemistry may be included with prior departmental approval.
2) Successfully pass a qualifying examination.
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 Ph.D. program if they fail to pass their qualifying examination or otherwise fail to meet the academic and professional standards set forth by the Graduate School and the Department of Chemistry and Biochemistry.

Master of Science in Biochemistry and Biotechnology
The Department of Chemistry and Biochemistry, in cooperation with the Department of Biology, offers a Master of Science degree in Biochemistry and Biotechnology. Information about this degree program may be found at http://www.umsl.edu/~biotech.

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 your department adviser for further information.

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 Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:
1011, 1082, 1091, 1111, 1121, 1134, 2223, 2612, 2622, 2633, 3022, 3312, 3322, 3333, 3412, 3643, 3814, 3905, 4212, 4233, 4343, 4412, 4433, 4652, 4712, 4722, 4733, 4764, 4772, 4897,

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.

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 Chem 1052 nor 1062 in the 120 hours required for graduation. Four hours of lecture per week.

1062 Organic and Biochemistry for the Health Professions (2) [MI, MS]
Prerequisites: any college chemistry course. An introduction to organic reactions and biochemistry. Chem 1062 is offered during the second half of the semester. Four hours of lecture per week.

1082 General Chemistry I (3) [MI, MS]
Prerequisite: Satisfactory score on math placement test. A broad introductory survey of chemical principles. Chem 1082 plus Chem 1091 are equivalent to Chem 1111. This alternative may be attractive to students who are not mathematically prepared for Chem 1111. Chemistry majors may not include both Chem 1082 and 1111 in the 120 hours required for graduation. Three hours of lecture per week.

1091 General Chemistry II (3) [MI, MS]
Prerequisites: Chem 1082 (or equivalent or consent of instructor) and Math 1030 and 1035 (may be taken concurrently). Additional work on the topics of Chem 1082, with emphasis on quantitative material. Introduction to the chemical laboratory. Chem 1082 plus Chem 1091 is equivalent to Chem 1111 for science majors. Chemistry majors who receive credit for Chem 1082 and Chem 1091 may not also include Chem 1011 or Chem 1111 in the 120 hours required for graduation. No student may take both Chem 3 and Chem 1091 for credit. Two hours of lecture per week, three and one-half hours of lab or one hour of discussion on alternate weeks.

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 1082 and 1111, nor both Chem 1011 and 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.

1121 Introductory Chemistry II (5) [MI, MS]
Prerequisite: Chem 1111 or advanced placement. Lecture and laboratory are a continuation of Chem 1111. Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

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 1111 and 1121.

2223 Quantitative Analysis (3) [C, MI, MS]
Prerequisite: Chem 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.

2412 Basic Inorganic Chemistry (2) [MI, MS]
Prerequisites: Chem 1121. Review of principles of atomic structure, covalent and ionic bonding. Properties of the elements and synthesis reactions and boding aspects of important compounds of main group and transition metal elements. Two hours lecture per week.

2612 Organic Chemistry I (3) [MS]
Prerequisite: Chem 1121. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

2622 Organic Chemistry II (3) [MI, MS]
Prerequisite: Chem 2612. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

2633 Organic Chemistry Laboratory (2) [C, MS]
Prerequisite: Chem 2612. 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.

3022 Introduction to Chemical Literature (1)
Prerequisite: Chem 2622 (may be taken concurrently) and Chem 3412. The course will familiarize the student with the literature of chemistry and its use. One hour of lecture per week.

3302 Physical Chemistry for the Life Sciences (3)
Prerequisites: Chem 2612 and Math 1800 or Math 1100, and Phys 1012. Principles and applications of physical chemistry appropriate to students pursuing degree programs in the life sciences. Topics will include thermodynamics, equilibria, kinetics, and spectroscopy. This course is intended for undergraduates seeking the B.S. degree in Biochemistry and Biotechnology and does not fulfill the physical chemistry requirement for other Chemistry B.A. and B.S. degree programs.

3312 Physical Chemistry I (3)
Prerequisites: Chem 1121 and Math 2000 (may be taken concurrently), and Phys 2111. Principles of physical chemistry, including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy, and quantum mechanics. Three hours per week.

3322 Physical Chemistry II (3)
Prerequisite: Chem 3312. Continuation of Chem 3312. Three hours of lecture per week.

3333 Physical Chemistry Laboratory I (2)
Prerequisite: Chem 2223 and Chem 3312. Experiments designed to illustrate principles introduced in Chem 3312. One hour of lecture and four and one-half hours of laboratory per week.

3643 Advanced Organic Chemistry Laboratory (2)
Prerequisites: Chem 2223, Chem 2622, Chem 2633. Chem 3022 may be taken concurrently. 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.

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.

4212 Instrumental Analysis (2)
Prerequisite: Chem 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.

4233 Laboratory in Instrumental Analysis (2)
Prerequisites; Chem 4212 and Chem 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.

4302 Survey of Physical Chemistry with Applications to the Life Sciences (3)
Prerequisites: Chem 2612 and Math 1800 or Math 1100, and Phys 1012. Principles of physical chemistry with applications to the life sciences. Topics will include thermodynamics, equilibria, kinetics, and spectroscopy. This course will be taught simultaneously with Chem 3302, but students in 4302 will have additional assignments or projects. No student may receive credit for both Chem 3302 and 4302.

4343 Physical Chemistry Laboratory II (2)
Prerequisites: Chem 3322 (may be taken concurrently) and Chem 3333. Experiments designed to illustrate principles introduced in Chem 3322. One hour of lecture and four and one-half hours of laboratory per week. Not for graduate credit.

4412 Inorganic Chemistry I (3)
Prerequisites: Chem 3322 (may be taken concurrently) Chem 3412 and Chem 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.

4433 Inorganic Chemistry Laboratory (2)
Prerequisites: Chem 3333, Chem 4412 and Chem 3643, (Chem 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.

4652 Spectroscopic Identification of Organic Compounds (3)
Prerequisite: Chem 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}C and ^{1}H, cw and pulsed and mass spectroscopy for the purpose of elucidating the structure of organic compounds. Three hours of lecture per week.

4712 Biochemistry (3)
Same as Biol 4712 Prerequisites: Chem 2612 and either Biol 1811 or Chem 2622. Examines the chemistry and function of cell constituents, and the interaction and conversions of intracellular substances, Students may not receive credit for both Biol 4712 and Chem 4712.

4722 Advanced Biochemistry (3)
Prerequisite: Chem 4712. Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

4733 Biochemistry Laboratory (2)
Prerequisite: Chem 4712 (may be taken concurrently), and Chem 2223. 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.

4764 Interdisciplinary Topics in Biochemistry (3)
Prerequisites: Chem 4712; Chem 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.

4772 Physical Biochemistry (3)
Prerequisite: Chem 3312 or Chem/Bio 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.

4802 Curriculum and Methods of Teaching Physical Sciences (3)
Prerequisites: Tch Ed 3310 and a near major in the subject matter. 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.

4814 Special Topics in Chemistry (1-10)
Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics.

4837 Chemistry / Physics Teaching Intern Seminar (1)
Same as Physics 4833. Prerequisite: Chem 4802 or Physics 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 3290. One-hour discussion per week.

4897 Seminar (1)
Prerequisites: Chem 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.

5142 Molecular Spectroscopy (3)
Prerequisite: Chem 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.

5162 Chemical Applications of Group Theory (3)
Prerequisite: Chem 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.

5302 Advanced Physical Chemistry (3)
Prerequisite: Chem 3322. Covers advanced topics in physical chemistry. May include but is not limited to properties of solids and liquids, gas/solid and solid/liquid interfacial chemistry, optical and electron spectroscopy, and chemical dynamics. Three hours of lecture per week.

5322 Application of Thermodynamics and Reaction Kinetics in Chemistry (3)
Prerequisite: Chem 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.

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.

5412 Typical Element Chemistry (3)
Prerequisite: Chem 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.

5432 Spectroscopic Methods in Inorganic Chemistry (3)
Prerequisites: Chem 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

5442 Coordination Chemistry (3)
Prerequisite: Chem 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.

5452 Quantum Mechanical Foundations of Spectroscopy (3)
Prerequisites: Chem 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.

5452 Organometallic Chemistry of the Main Group Elements (3)
Prerequisites: Chem 4412 or an equivalent course. A systematic study of main group element compounds 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.

5462 Organometallic Chemistry of the Transition Elements (3)
Prerequisites: Chem 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.

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.

5602 Advanced Organic Chemistry I - Physical Organic (3)
Prerequisites: Chem 2622 and 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.

5612 Advanced Organic Chemistry II - Reactions and Synthesis (3)
Prerequisite: Chem 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

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 bio-organic chemistry, organic thermochemistry, natural products chemistry, stereochemistry, photochemistry, heterocyclic chemistry, medicinal chemistry.

5794 Special Topics in Biochemistry (1-3)
Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.

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.

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.

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.

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.

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.

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.

6897 Chemistry Colloquium (1)
Presentation of papers by students, faculty, and invited speakers. One hour per week.

6905 Graduate Research in Chemistry (1-10)

Department of Criminology and Criminal Justice

Faculty

Janet L. Lauritsen, Professor*, Chairperson
Ph.D., University of Illinois-Urbana
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
Finn Aage Esbensen,
E. Des Lee Professor of Youth Crime
And Violence*
Ph.D., University of Colorado
Richard Rosenfeld, Professor*
Ph.D., University of Oregon
Richard Wright, Professor*,
Ph.D., Cambridge University
Eric Baumer, Associate Professor*
Ph.D., State University of New York at Albany
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
Rodney Brunson, Assistant Professor*
Ph.D., University of Illinois-Chicago
Beth Marie Huebner, Assistant Professor*
Ph.D., Michigan State University
Callie Rennison, Assistant Professor*
Ph.D., University of Houston
Eric Stewart, Assistant Professor*
Ph.D., Iowa State University
Timothy Maher, Lecturer
M.A., University of Missouri-St. Louis

*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.

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 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 CCJ 3280 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.

Chair's List
Each semester, faculty members nominate undergraduates who have done outstanding work in one or more of their courses to the department's *Chair's List*. In addition to being nominated by faculty member, the student must meet a cumulative grade-point average threshold for placement on the *Chair's List*. The list is featured on the department's website, the students receive a special letter of recognition from the Chair, and the Dean of Arts and Sciences is notified of their accomplishment.

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; Soc 3220, Quantitative Techniques in Sociology; or Soc 3230, 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 3000-5000 level courses only after completing Eng 3100 (Advanced Expository Writing).

Students may register for 3000-5000 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 1100, 2260, or 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:
1100, Introduction to Criminology and Criminal Justice
1110, Theories of Crime
1130, Criminal Justice Policy
1200, Criminal Law
2210, Research Methods in Criminology and Criminal Justice
2220, Statistical Analysis in Criminology and Criminal Justice
4390, Seminar in Criminology and Criminal Justice

One of the following courses in Criminology and Criminal Justice:

3305, Comparative Criminology and Criminal Justice
3325, Violence Against Women
4325, Gender, Crime, and Justice
4340, Race, Crime, and Justice

Two courses from the following four:
2230, Crime Prevention
2240, Policing
2260, Corrections
2270, Juvenile Justice and Delinquency

Two <u>additional</u> courses at the 3000, 4000, or 5000 level:
3043, History of Crime and Justice
3305, Comparative Criminology and Criminal Justice
3310, Computers in Criminal Justice
3320, The Death Penalty
3325, Violence Against Women
3330, White Collar Crime
3345, Rights of the Offender
4300, Communities and Crime
4320, Forms of Criminal Behavior
4325, Gender, Crime, and Justice
4335, Probation and Parole
4340, Race, Crime, and Justice
4350, Victimology
4380, Special Topics in Criminology and Criminal Justice
5515, Ethics in Criminology and Criminal Justice
Elective Courses
1150, Violence in America
1990, The City
2180, Alcohol, Drugs and Society
2250, Youth Gangs
2265, Capital Punishment
3280, Internship in Criminology and Criminal Justice
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:
1100, Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:
1110, Theories of Crime
1120, Criminal Law
1130, Criminal Justice Policy
Candidates must then complete 6 hours of criminology and criminal justice course work at the 2000 level or above.

Candidates must also 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 3.0 on a 4-point scale and students are expected to begin their course of study in the Fall semester. Admission is competitive.

Degree Requirements
The M.A. in Criminology and Criminal Justice requires the completion of 33 credit hours, at least 21 of which are required to be in courses housed in the Department of Criminology and Criminal Justice. 12 of these hours represent the core of the curriculum Students may choose between a thesis and nonthesis course of study. Students whose cumulative GPAs fall below 3.0 after 9 or more hours of work will be placed on probation and given one semester to raise their cumulative GPAs to at least the 3.0 threshold.

Plan of Study

Required Coursework (21 hours)
5415, Foundations of Criminological Theory (3; core)
6400, Proseminar: Criminology and Criminal Justice (3; core)
6405, Methods (3; core)
6410, Statistics (3; core)
Three additional Criminology and Criminal Justice seminars at the 6000 level (9; non-core)

Electives (12 hours)

Twelve elective hours of coursework are required; some or all of these credits may be earned in Criminology and Criminal Justice 6000 level seminars not counted toward the 21 hour requirement. Students may take a maximum of two 4000-level courses in partial fulfillment of this requirement but they must have the prior approval of the Graduate Committee. All electives taken outside the College of Arts and Sciences also must receive prior approval of the Graduate Committee.

Transfer Courses

Transfer courses are evaluated for acceptance on a case-by-case basis subject to the rules and regulations of the Graduate School. A maximum of 11 credit hours earned at other institutions can be credited toward the UMSL M.A. degree in Criminology and Criminal Justice.

Ph.D. Program in Criminology and Criminal Justice

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 7499) are required. Students may enroll for dissertation credits (CCJ 7499) only when all other degree requirements have been completed.

Required courses for the Ph.D. are:
5415, Foundations of Criminological Theory
5475, Evaluation Research Methods
6400, Proseminar
6405, Methods
6410, Statistics
6420, Contemporary Criminological Theory
6440, Nature of Crime
6450, Criminal Justice Organization
6465, Qualitative Research Design
6470, Quantitative Research Design
6471, Evaluating Criminal Justice Interventions
6480, Multivariate Statistics

Students are also required to complete at least 9 hours from the following courses:
5533, Philosophy of Law
5555, Ethical and Legal Issues in Criminal Justice
6430, Law and Social Control
6431, The Nature of Punishment
6432, Criminal Law
6434, Human Rights
6435, Law, Courts, and Public Policy
6436, Comparative Legal Systems
6437, Private Justice
6441, Juvenile Delinquency
6442, Communities and Crime
6443, Violent Crime
6444, Organizational Crime
6445, Property Crime
6446, Sex Crime
6447, Public Order Crime
6448, Victimization
6451, Juvenile Justice Systems
6452, The Police
6453, Adjudication
6454, Corrections

Additional courses beyond the above requirements are taken as elective courses. These courses may be at the 5000 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 do not 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 criminal justice. Each will integrate theory and methods into the substantive literature. Part one of the exam (on crime and criminality) will consist of a six-hour examination without

access to notes or external references. Part two (on criminal justice) will be a 48-hour, non-collaborative, take-home examination.

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, and provide 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 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:
1100, 1200, 1075, 1110, 1120, 1130, 2180, 2210, 2220, 2226, 2230, 2240, 2260, 2270, 3043, 3290, 3305, 3310, 4300, 4320, 4325, 3043, 4335, 4340, 3345, 4350, 4380, 4390, 5515.

The following courses fulfill the Humanities breadth of study requirements: 2252.

1075 Crime and Punishment (3)
Same as Soc 1075 and ID1075. 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.

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.

1110 Theories of Crime (3)
Prerequisite: CCJ 1100. Introduction to major theoretical approaches to the study of crime and justice.

1120 Criminal Law (3)
Prerequisite: CCJ 1100. Analysis of substantive criminal law, evidence and judicial procedure.

1130 Criminal Justice Policy (3)
Prerequisite: CCJ 1100. Introduction to criminal justice policy making, planning, and implementation.

1150 Violence in America (3) [SS]
Prerequisites: CCJ 1100 or consent of instructor.
Overview of patterns and correlates of violence in America. Emphasis on the variety of forms of violent crime, such as murder, assault, robbery, rape, and gang violence. Includes an examination of violence as a response to lawbreaking.

1200 Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]
Same as ID 1200, and Pol Sci 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.

2180 Alcohol, Drugs, and Society (3)
Same as Soc 2180. Prerequisite: Soc 1010 or Psych 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.

2210 Research Methods in Criminology and Criminal Justice (3)
Prerequisite: CCJ 1100. Examination of basic methods of research design, measurement and data collection in criminology and criminal justice.

2220 Statistical Analysis in Criminology and Criminal Justice (3)
Prerequisites: CCJ 2210 and the 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.

2226 Law and the Individual (3)
Same as PolSci 2260. Prerequisite: PolSci 1100, or 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.

2230 Crime Prevention (3)
Prerequisite: CCJ 1100. Examination of situational, social, and legislative approaches to the prevention of crime and delinquency. Emphasis on theories, implementation and consequences of these approaches

2240 Policing (3)
Prerequisite: CCJ 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.

2251 Youth Gangs (3)
Prerequisites: CCJ 1100 or consent of instructor. This course provides an overview of research and policy concerning youth gangs. Definitional and methodological issues will be examined, along with both qualitative and quantitative research. Topics include: the causes of gangs and gang involvement; crime, victimization, and drug involvement; and variations by race, gender, time period, and geography.

2252 Philosophical Foundations of Criminal Justice (3)
Same as Phil 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? Whey might people be morally obligated to obey.

2260 Corrections (3)
Prerequisite: CCJ 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.

2265 Capital Punishment (3)
Prerequisites: CCJ 1100 or consent of instructor. Consideration of various aspects of the death penalty, including an examination of its history, ethics, application, and international setting.

2270 Juvenile Justice and Delinquency (3)
Prerequisite: CCJ 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.

3043 History of Crime and Justice (3)
Same as Hist 3043. Prerequisites: Junior Standing, CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100, or consent of instructor. 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.

3280 Internship in Criminology and Criminal Justice (3)
Prerequisite: Junior standing. Internship under faculty supervision in a criminal justice setting. May be repeated once.

3290 Special Readings (1-6)
Prerequisite: Consent of instructor. Individualized study, under regular faculty supervision, designed to meet particular educational needs of selected students.

3305 Comparative Criminology and Criminal Justice (3)
Prerequisites: CCJ 1120, 1130, 2220 and Eng 3100, or consent of instructor. Analysis of crime and criminal justice systems in selected cultures. Emphasis on the ways in which these cultures define and respond to criminal behavior. Fulfills CCJ diversity requirement.

3310 Computers in Criminal Justice (3)
Prerequisites: CCJ 1120, 1130, 2220 and Eng 3100 or consent of instructor. Use of computers, data base systems, and software applications in research and professional practice.

3320 The Death Penalty (3)
Prerequisites: CCJ 1100. An examination of the history, application, and attitudes toward the death penalty.

3325 Violence Against Women (3)
Prerequisites: Junior Standing, CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100, or consent of instructor. This course examines the nature, extent, causes and consequences of various types of violence against women, including rape,

sexual assault, stalking, and intimate partner violence. Criminal justice policy and practice regarding violence against women are also examined. Fulfills CCJ diversity requirement.

3330 White Collar Crime (3)
Prerequisites: Junior Standing, CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100, or consent of instructor. This course examines the physical and financial harm caused by crimes committed by corporations and business employees. Theoretical and empirical perspectives will be examined. Topics include: definitional issues and ethics; public perceptions; social, political and economic impact; and legal decision-making.

3345 Rights of the Offender (3)
Prerequisites: CCJ 1120, 1130, 2220 and Eng 3100, 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.

4300 Communities and Crime (3)
Same as Soc 4300. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, 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.

4320 Forms of Criminal Behavior (3)
Same as Soc 4320. Prerequisites: CCJ 1110, 1120, 1130, 2210, 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.

4325 Gender, Crime, and Justice (3)
Same as Soc 4325. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, or consent of instructor. Analysis of the role of gender in crime and in the justice system. Emphasis on gender differences in crime commission, criminal processing, and the employment of women in criminal justice agencies. Fulfills CCJ diversity requirement.

4335 Probation and Parole (3)
Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, 2260, and Eng 3100 or consent of instructor. Analysis of alternatives to incarceration and postincarceration supervision. Emphasis on diversion, restitution, and community reintegration.

4340 Race, Crime, and Justice (3)
Same as Soc 4340. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, 2260 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. Fulfills CCJ diversity requirement.

4350 Victimology (3)
Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100 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.

4380 Special Topics in Criminology and Criminal Justice (3)
Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100 or consent of instructor. In-depth study of a selected topic in criminology and criminal justice.

4390 Seminar in Criminology and Criminal Justice (3)
Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, Eng 3100, and senior standing, or consent of instructor.. In this capstone course, students demonstrate the ability to work independently, integrating theory and research in criminology and criminal justice in a major research paper supervised by the instructor.

4487 Philosophy of Law (3)
Prerequisite: CCJ 1100, and 3 hours of philosophy or consent of instructor. Same as Phil 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.

4650 Forensic Issues in Mental Health (3)
(Same as SW 4650)
This is an intensive issues course, investigating the intersection between the legal system and mental health. Students will explore issues involved in civil and criminal trial proceedings such as insanity defenses, diminished capacity, and competency to stand trial, civil commitment, battered women and rape trauma syndrome, sexual abuse of children, child custody, and domestic violence. In addition, the course will examine the roles of mental health practitioners as forensic evaluators, trial consultants and expert witnesses in a variety of mental health related cases.

5415 Foundations of Criminological Theory (3)
Same as Soc 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.

5475 Evaluation Research Methods (3)
Same as Psych 5475, Soc 5475, and PPA 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.

5515 Ethics in Criminology and Criminal Justice (3)
Same as Phil 5515. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, Phil 2253, 2254, 2256, 4430, 4435, 4438, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

5531 The Nature of Punishment (3)
Same as Phil 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.

5533 Philosophy of Law (3)
Same as Phil 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.

5555 Ethical and Legal Issues in Criminal Justice (3)
Same as Phil 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.

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.

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.

6410 Statistical Applications in Criminology and Criminal Justice (3)
Prerequisites: CCJ 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.

6420 Contemporary Criminological Theory (3)
Prerequisite: CCJ 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.

6422 Law, Courts, and Public Policy (3)
Same as Pol Sci 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.

6430 Law and Social Control (3)
Same as Soc 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.

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.

6435 Gender, Crime and Criminal Justice (3)
Prerequisite: Graduate Standing. This course provides an analysis of theories of crime, crime processing and gender. Topics examined include the role of gender in criminal offending and victimization. The impact of gender on criminal/juvenile justice system processing and treatment will be addressed.

6436 Comparative Legal Systems (3)
Prerequisite: Graduate standing or consent of instructor. Examination of crime and criminal justice systems in world perspective.

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.

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

6470 Quantitative Research Design (3)
Prerequisite: Graduate standing or consent of instructor. Examination of experimental, longitudinal, and cross-sectional designs. Sources of data, sampling procedures, operational definitions, and issues of reliability are also discussed.

6471 Evaluating Criminal Justice Interventions (3)
Prerequisites: CCJ 6405 and CCJ 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.

6480 Multivariate Statistics in Criminology (3)
Prerequisite: CCJ 6405 and CCJ 6470. Introduction to the general linear model with applications to multivariate problems in criminal justice and criminology. Topics include advanced ordinary least squares, modeling, time

series analysis, simultaneous equations, and analysis of limited dependent variables.

6485 Directed Readings/Research in Criminology and Criminal Justice (1-6)
Prerequisite: Consent of Instructor. Directed reading and research, under faculty supervision, designed to meet particular educational needs of selected students.

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.

6498 M.A. Thesis Research (1-6)
Prerequisites: Graduate standing and consent of instructor.

6500 Professional Proseminar: Criminology & Criminal Justice (3)
Prerequisite: Graduate Standing. (Must be taken in the first semester.) A critical examination of theoretical, methodological, and policy issues confronting criminal justice professionals. Focus is on nature of crime, policing, corrections and community supervision.

6505 Research Methods for Criminal Justice Professionals (3)
Prerequisites: Graduate Standing. Examination of basic and applied methods for research design and data collection. Topics include participant observation and interviewing, surveys, aggregate data analysis, and program evaluation.

6510 Applied Statistics in Criminology & Criminal Justice (3)
Prerequisites: CCJ 4505. Examination of elementary principles of quantitative analysis and their application to criminal justice settings. Topics include univariate, bivariate, and multivariate procedures for discrete and continuous data routinely used by criminal justice professionals.

7499 Ph.D. Dissertation Research (1-6)
Prerequisite: Graduate standing or consent of instructor. To be arranged.

Department of Economics

Faculty

David C. Rose, Professor*, and Chairperson
Ph.D., University of Virginia
Sharon G. Levin, Research Professor*
Ph.D., University of Michigan
Thomas R. Ireland, Professor Emeritus
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 Emeritus
Ph.D., Syracuse University
Susan K. Feigenbaum, Professor*
Ph.D., University of Wisconsin
Robert L. Sorensen, Professor*
and Director of Undergraduate Studies
Ph.D., Virginia Polytechnic Institute
Lawrence H. White, Professor*; Friedrich A. Hayek
Professor in Economic History
Ph.D., University of California, Los Angeles
Anne Winkler, Professor*
Economics and Public Policy Administration
Ph.D., University of Illinois at Urbana-Champaign
Sel Dibooglu, Associate Professor*
Ph.D., Iowa State University
Clinton A. Greene, Associate Professor*
Ph.D., University of California-Davis
Donald J. Kridel, Associate Professor*, and
Director of Graduate Studies
Ph.D., University of Arizona
Herbert D. Werner, Associate Professor Emeritus
Ph.D., University of California-Berkeley
Lea-Rachel Kosnik, Assistant Professor
Ph.D., University of California, Los Angeles
William H. Rogers, Assistant Professor
Ph.D., Colorado State University
Michael T. Allison, Senior Lecturer
A.B.D., University of Virginia
Kathleen Phares, Senior Lecturer Emeritus
M.A., University of Missouri-St. Louis
Brian Speicher, Senior Lecturer
A.B.D., Washington University
Mary Suiter, Lecturer, and
Director for the Center for Entrepreneurship
And Economic Education
M.A., University of Delaware

*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 Econ 1001, Principles of Microeconomics, and Econ 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 2000 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:
1001, Principles of Microeconomics
1002, Principles of Macroeconomics
3001, Intermediate Economic Theory: Microeconomics
3002, Intermediate Economic Theory: Macroeconomics
3100, Economic Statistics
3200, Money, Banking, and Monetary Theory
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 at or above the 2000 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:
1001, Principles of Microeconomics
1002, Principles of Macroeconomics
3001, Intermediate Economic Theory: Microeconomics
3002, Intermediate Economic Theory: Macroeconomics
3100, Economic Statistics
3200, Money, Banking, and Monetary Theory
4100, Introduction to Econometrics
Math 1800, Analytic Geometry and Calculus I, **or**
Math 1100, Basic Calculus

Also required are two of the following:
4030, Managerial Economics
4040, Analysis of Business Cycles
4110, Applied Econometrics
4120, Time Series Econometrics for Economics and Finance
4130, Econometric and Time Series Forecasting
4150, Mathematical Economics
4160, Geospatial Economic Analysis
or any mathematics course numbered 1900 or above (with consent of adviser)

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 4990).

Graduate School Preparation:
It is recommended that students considering doctoral-level graduate work in economics also take:

Math 1900, Analytical Geometry and Calculus II
Math 2000, Analytical Geometry and Calculus III
Math 2450, Linear Algebra
Math 4200, Mathematical Statistics

General Business Preparation:
It is recommended that students interested in pursuing careers in business also take:
BA 2400, Fundamentals of Financial Accounting
BA 2410, Managerial Accounting
BA 2900, Legal Environment of Business
BA 3500, Financial Management
BA 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 at or above the 2000 level. Econ 3100, Economic Statistics, cannot be counted towards the economics minor if the student has also taken Math 1310, Math 1320, Math 1105, or the equivalent.

The following courses are required:
1001, Principles of Microeconomics
1002, Principles of Macroeconomics
3001, Intermediate Economic Theory: Microeconomics

It is also recommended that students take Econ 3002, Intermediate Economic Theory: Macroeconomics

A GPA of 2.0 or better is required for courses presented for the minor. The satisfactory/ unsatisfactory (s/u) option may be applied to Econ 1001 and 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 4000, and above 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: Applicants will have completed at least sixty (60) graded semester credit hours of course work which will include all 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 be nominated by a full time regular economics faculty member. Applications will be considered during and after the semester in which the student completes 60 undergraduate credit hours.

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 Econ 3200, 3001, 3002, 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: Econ 4100; three additional electives in economics of which two must be selected from Econ 4150, 4040, 4030, 4110, 4120, or 4130; up to three 5000 or 6000 level courses in economics; and additional hours of undergraduate course work to complete a total of 120 credit hours. (Not more than 50 hours of economics course work may be counted towards the major.) Of the hours approved taken at the 4000-6000 or above 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. Note: Neither Econ 4100 or 4150 will be counted toward the 30 hour minimum. 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 5000 level and above. These must include Econ 5140, 5001, 5002, and 5100. The Director of Graduate Studies must approve all courses for the dual degree. A maximum of 6 hours (of the 30 required for the M.A.) may be taken at the 4000 level.

Awarding of Degree: The B.S./M.A. degrees will be awarded when all requirements for the M.A. 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 B.S. degree will be awarded the B.S. degree.

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 the M.A. in Economics. Students with previous education in economics or business may waive some of these courses.

Econ 4150, Mathematical Economics
BA 5001, Managerial Economic Analysis
BA 5002, Analysis of National Economic Environment
MS/IS 5300, Statistical Analysis for Management Decisions
Econ 5140, Seminar in Economic Research
Econ 5001, Microeconomic Analysis
Econ 5002, Macroeconomic Analysis
Econ 5100, Econometric Theory and Methods

Electives
Candidates must complete at least 18 hours of electives. A maximum of 6 hours may be taken at the 4000 level with the approval of the graduate coordinator, students may take up to 9 hours of course work outside the Department of Economics.

Dual M.B.A./M.A. in Economics
For as few as 15 h ours of additional course work in economics, a Master of Arts in Economics may be obtained along with your Master of Business Administration (M.B.A.) degree. Once accepted into the M.B.A. Program, you need only complete an on-page application form to gain admittance to the Economics program as well. Fulltime students can easily complete the M.A. degree in a year's time, while part-time students can be accommodated over a longer time period. All courses are available during the evening. The following course of study is recommended for

dual degree-seekers. It is assumed that students have already completed at least one course in calculus.
I) Core requirements – 12 hours
Econ 5140, Seminar in Economic Research (or BA 5100 Managerial Communications)
Econ 5001, Microeconomic Analysis
Econ 5002, Macroeconomic Analysis
Econ 5100, Econometric Theory and Methods

II) Electives – 18 hours
Twelve hours of graduate-level business electives (excluding BA 5000, BA 5001, and BA 5002, IS 6800 and LOM 5300) to be incorporated from your M.B.A. degree program. Six additional graduate hours in economics, three hours of which may be at the 4000 level.

Applicants need not have an undergraduate degree in economics. However, students are expected to have taken, either at the baccalaureate or M.B.A. level: Intermediate Microeconomics (Econ 3001 or BA 5001), Intermediate Macroeconomics (Econ 3002 or BA 5002), Mathematical Economics (Econ 4150), Money and Banking (Econ 3200), Statistical Analysis for Management Decisions (LOM 5300) and Introductory Econometrics (Econ 4100). Students that do not have these courses will take these courses first; credits earned in these courses do not count towards the hours required for the M.A.

Students must take at least 30 hours to complete the M.A. in Economics degree-core requirements (1) and electives (II) – and these courses must be completed within a period of six years.

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 5650, Law and Forensic Economics
Econ 5660, Labor Economics for Forensic Economics
Econ 5670, Assessment of Damages in Personal Injury and Wrongful Death
Econ 5680, Statistical Research in Forensic Economic Analysis
Econ 5690, Writing Reports and Papers on Forensic Economics
Econ 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 applied 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:
Business 5001, Microeconomic Analysis
Economics 4100, Introduction to Econometrics
Economics 4030, Managerial Economics

and any two of the following:
Economics 4040, Analysis of Business Cycles
Economics 5020, Economics of Contracts and Organization
Economics 5110, Applied Econometrics
Economics 5130, Business and Economics Forecasting
Economics 6600, Structure and Performance of United States Industry

In addition, the student is required to take an elective (any economics course numbered 5000 or higher). Students with previous experience in economics may be able to substitute for courses previously completed, however, 18 credit hours are required for the Certificate.

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) 516-5553.

Course Descriptions

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:
1000, 1001, 1002, 1003, 2010, 2410, 2610, 2800, 3001, 3002, 3052, 3100, 3200, 3300, 3301, 3310, 3320, 3400, 3500, 3501, 3510, 3600, 3620, 3630, 3650, 3700, 3710, 3750, 3800, 3900, 4030, 4040, 4100, 4110, 4130, 4140, 4150, 4160, 4210, 4550, 4610, 4980, 4990, 5110
GEOGRAPHY: 1001, 1002, 2900, 3900

Economics

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 1000 does not substitute for Econ 1001 or 1002. Students who have already completed Econ 1001 or 1002 may not take Econ 1000 for credit.

1001 Principles of Microeconomics (3) [V, SS]
Prerequisite: Mathematics 1030. 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.

1002 Principles of Macroeconomics (3) [SS]
Prerequisite: Econ 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.

1003 Microeconomics in the News: A Virtual Classroom (1)
Prerequisites: Econ 1000 or Econ 1001 or equivalent (may be taken concurrently). This course uses a virtual chatroom to host one hour of discussion weekly about current news events with microeconomic content. News articles will focus on business, pubic policy, and individual choices that can be understood within a microeconomics framework. Chatroom can be accessed from any location-on or off-campus-within Internet access.

1004 Macroeconomics in the News: A Virtual Classroom (1)
Prerequisites: Econ 1002 or equivalent (may be taken currently). This course uses a virtual chatroom to host one hour of discussion, weekly, about current news events with macroeconomic content. News articles will focus on macroeconomic phenomena – e.g., interest rates, the global economy, the Federal Reserve and pubic policy decisions – that can be understood within a macroeconomics framework. Chatroom can be accessed from any location – on or off – campus – with Internet access.

1500 Entertainment Economics: The Movie Industry (3) [SS]
This survey course examines the interrelationships between economics and the movie industry. It explores the impact of economic factors on the production, distribution and exhibition of movies, focusing on the rise and fall of the studio system, role of technological change in the evolution of cinematography and the movie marketplace, financing and market segmentation, globalization and changing industrial structure within which films are produced. To the extent that movies reflect and contribute to popular economic perspectives, this course also evaluates the soundness of the movie industry's depiction of a variety of economic doctrines. Classes will consist of lecture, discussion, and brief film screenings. This course does not count towards the hours required for an Economic major.

1510 Entertainment Economics: The popular Music Industry (3) [SS]
This survey course examines the interrelationship between economics and the music industry. It explores the impact of economics factors on the production, distribution of music, payola, and the rise and fall of the independent labels, the role of technological change in the evolution of music industry, globalization and changing industrial structure within which CDs are produced. To the extent that music reflects and contributes to popular economics perspectives, this course also evaluates the soundness of the music industry's depiction of a variety of economic doctrines. Classes will consist of lecture, discussion, and brief listening sessions. This course does not count towards the hours required for an Economics major.

2010 The Business Firm: History, Theory, and Policy (3) [V, SS]
Prerequisites: Econ 1000 or 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.

2410 Work, Families, and Public Policy (3)
Prerequisite: Econ 1000 or 1001. This course compares the economic behavior of women and men in both the labor market and the household. 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.

2610 The Economics of Professional Sports (3) [V, SS]
Prerequisite: Econ 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.

2650 Law and Economics (3)
Prerequisite: Econ 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.

2800 History of American Economic Development (3) [MI, SS]
Prerequisites: Econ 1000 or 1001 or consent of instructor. Same as Hist 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.

3001 Intermediate Economic Theory: Microeconomics (3)
Prerequisites: Econ 1001 and 1002. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

3002 Intermediate Economic Theory: Macroeconomics (3)
Prerequisites: Econ 1001, 1002; Econ 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.

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 3052 may not be used by economics majors to meet degree requirements.

3055 Economics Issues for the School Curriculum (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. This course does not fulfill the undergraduate economics requirement for education majors.

3100 Economic Statistics (3)
Prerequisites: Math 1030, Econ 1001, and Econ 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.

3150 Quantitative Methods and Modeling in Economics, Business and the Social Sciences (3)
Prerequisites: Math 1030; Econ 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 4150 or Math 1800 or Math 1100 may not take this course for credit.

3200 Money, Banking, and Monetary Theory (3)
Prerequisites: Econ 1001 and 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.

3300 International Economic Analysis (3)
Prerequisite: Econ 1001. 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.

3301 International Finance (3)
Prerequisite: Econ 1002. Introduction to international monetary systems; foreign exchange markets; financing of international transactions; the international position of the dollar.

3310 Comparative Economic Systems (3)
Prerequisite: Econ 1001, or 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.

3320 Economic Development (3)
Prerequisites: Econ 1001 and 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.

3400 Labor Economics (3)
Prerequisite: Econ 1001. 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.

3500 Public Finance: Expenditures (3)
Prerequisite: Econ 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.

3501 Political Finance: Revenues (3)
Prerequisite: Econ 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.

3600 Industrial Organization (3)
Prerequisite: Econ 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.

3620 Business and Government (3)
Prerequisite: Econ 1001. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered.

3630 Government Regulation and Antitrust Policy (3)
Prerequisite: Econ 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.

3700 Urban and Regional Economics (3)
Prerequisites: Econ 1001 and 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.

3710 Planning Processes in the Urban Economy (3)
Prerequisites: Econ 1001 and junior standing. Economic techniques and criteria used in planning and evaluating programs and projects for the urban economy.

3750 The Political Economy of Health Care (3)
Prerequisite: Econ 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.

3800 History of Economic Thought (3)
Prerequisites: Econ 1001 and 1002. The evolution of economic thought from the ancients through post-Keynesian theory.

3900 Selected Topics in Economics (3)
Prerequisites: Econ 1001 and 1002. Analysis of a selected economic topic. 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.

4030 Managerial Economics (3)
Prerequisite: Econ 3001 or equivalent; Math 1800 or 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.

4040 Analysis of Business Cycles (3)
Prerequisites: Econ 3200; 3002; 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.

4100 Introduction to Econometrics (4)
Prerequisites: Econ 1001 and 1002; Econ 3100 Math 1800 or Math 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.

4110 Applied Econometrics (4)
Prerequisite: Econ 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. This course includes laboratory work in quantitative economic analysis.

4120 Time Series Econometrics for Economics and Finance (4)
Prerequisites: Econ 4100 or equivalent and a solid foundation in statistics. Introduction to application of econometric methods to time-series data. Emphasis on model specification as it applies to macroeconomic or financial data. Topics include: Stationary and non-stationary time-series, seasonality, random walks, unit roots, Dickey-Fuller tests, cointegration, ARCH/GARCH models, and general to specific modeling (ADLs). Specific applications to macro-economics, international economics and/or financial markets.

4130 Econometric and Time Series Forecasting (4)
Prerequisite: Econ 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. This course includes laboratory work in quantitative economic analysis.

4150 Mathematical Economics (3)
Prerequisites: Math 1800 or 1100, Econ 3001, or BA 5000 or 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.

4160 Geospatial Economic Analysis (3)
Prerequisites: Junior standing. Econ 1001 and 1002 or consent of instructor. Analysis of geospatial socioeconomic data using geographic information systems (GIS) software. Emphasis will be on how to create maps to clearly present and analysis information; how geospatial analysis can be integrated into research projects and presentations; and how geospatial data can be identified and located to shed light on economic research questions.

4170 Fundamentals of Cost-Benefit Analysis
Prerequisites: Econ 3001 or equivalent. The purpose of this course is to provide a systemic and rigorous way of thinking about the measurement of benefits and costs when evaluating public projects, programs or regulations. Cost-benefit analysis has wide application, including: environmental resource use, highway construction projects, safety regulations, taxation of cigarettes, and investment in higher education. Given the prevalence of cost-benefit analysis in government budgetary processes, this course will develop critical appraisal skills to evaluate the appropriateness of these analyses.

4210 Financial Markets and Institutions (3)
Prerequisite: Econ 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.

4510 Public Finance: State and Local (3)
Prerequisites: Econ 1001 and 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.

4550 Natural Resource Economics (3)
Prerequisite: Econ 1001, or consent of instructor, junior standing. 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.

4610 Economics of Nonmarket Decision Making (3)
Prerequisites: Econ 1001 or consent of instructor; junior standing. 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.

4900 Advanced Topics in Economic Analysis (3)
Prerequisites: Econ 3001 or 3002 or consent of instructor. Study of a specific topic in Economics that may vary from semester to semester. May be taken for credit more than once if the topics are different.

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

4990 Internship in Applied Economics (2-6)
Prerequisites: Junior standing, Econ 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.

5001 Microeconomic Analysis (3)
Prerequisites: Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 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.

5002 Macroeconomic Analysis (3)
Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 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.

5010 Microeconomics for Policy Analysis (3)
Prerequisites: Graduate Student Standing. Same as PPA 6080. 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. This course may not be used by economics students to meet M. A. degree requirements.

5020 Economics of Contracts and Organization (3)
Prerequisites: Econ 3001 or BA 5001 or 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.

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 5051 may not be used by economics majors to meet degree requirements.

5052 Microeconomics for the School Curriculum (1-3)
Prerequisite: Bachelor's degree from an accredited institution or consent of instructor. Analysis of market forces, with emphasis on business firms, households, productive factor markets, price determination and resource allocations. Special reference to topics included in the elementary and secondary school social science curricula.

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.

5100 Econometric Theory and Methods (3)
Prerequisites: Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 4150; Econ 4100 or LOM 5300; Math 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.

5110 Topics in Applied Econometrics (3)
Prerequisites: Econ 4100, or Econ 5100 or LOM 5300; Math 2450 or equivalent. Concepts and application of advanced econometric techniques. Students will develop a thorough understanding of the appropriateness and application of a variety of state-of-the art techniques. Topics will include specification tests, polynomial distributed lags, discrete choice, pooled time-series cross-section, simultaneous equations and outlier detection.

5120 Advanced Topics in Time Series Econometrics (3)
Prerequisites: Econ 4100 or equivalent and a solid foundation in statistics. Application of econometric methods to time-series data. Emphasis on model specification as it applies to macroeconomic or financial data. Advanced Topics include: Stationary and non-stationary time-series, seasonality, random walks, unit roots, Dickey-Fuller tests, cointegration, ARCH/GARCH models, and general to specific modeling (ADLs). Specific applications to macro-economics, international economics and/or financial markets.

5130 Business and Economic Forecasting (3)
Prerequisites: Econ 3001 or BA 5001, Econ 3002 or BA 5002, Econ 4150, Econ 4100 or MS/IS 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.

5140 Seminar in Economic Research (3)
Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002 or BA 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.

5200 MonetaryTheory and Policy (3)
Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 4150. An examination of how monetary policy has affected the economy in the past and how it can improve economic performance in the future. Topics include: the origins of money, money supply, money demand, 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.

5210 Financial Markets (3)
Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 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.

5300 International Trade (3)
Prerequisite: Econ 3001 or BA 5001. Survey of the modern theories of international trade and their applications including factor endowments and other, 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.

5301 International Monetary Analysis (3)
Prerequisite: Econ 3200, Econ 3002 or BA 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.

5500 Public Sector Microeconomics (3)
Prerequisite: Econ 3001 or BA 5001, or PPA 6080. Same as PPA 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.

5600 Structure and Performance of United States Industry (3)
Prerequisites: Econ 3001 or BA 5001; Econ 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.

5630 Economics of Telecommunications (3)
Prerequisites: Econ 3001, BA 5000 or BA 5001 and Econ 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.

5650 Law and Forensic Economics (3)
Prerequisites: Econ 3001, 3002, 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, differences by class of litigation, determination of whole" principle, efficient deterrence and efficient compensation relevant law, legal implications of "preferred jury instructions," standards for admissibility of economic expertise.

5660 Labor Economics for Forensic Economists (3)
Prerequisites: Econ 3001, 3002, 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.

5670 Assessment of Damages in Personal Injury and Wrongful Death (3)
Prerequisites: Econ 3001, 3002, 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.

5680 Statistical Research in Forensic Economic Analysis (3) Prerequisites: Econ 3001, 3002, 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.

5690 Writing Reports and Papers in Forensic Economics (3)
Prerequisites: Econ 3001, 3002, 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.

5695 Internship in Forensic Economics (3)
Prerequisites: Econ 3001, 3002, 3100 or equivalent; or consent of instructor. Internship with litigation division in law or accounting practice, or with forensic consulting firm. Internship activities and products will be monitored largely through Internet interaction between student and faculty.

5700 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 of specific topical areas such as local education, level) and intergovernmental relations. It also covers the economics transportation, financing adequate urban services, governmental structure and financial organization, infrastructure needs.

5720 Real Property Economics (3)
Prerequisites: Econ 3001 & 4200 or equivalent. This course will apply economic theory to analyze the real estate market's micro and macro characteristics. Public policy impacting both the residential and commercial property markets will be discussed using models developed in the course. Topics include price and location theory, growth and growth patterns, urban sprawl, migration, regulation of land and capital, provision of public goods, and non-market valuation modeling. Hands-on applications of various non-market property valuations will be incorporated in the course.

5750 The Political Economy of Health Care (3)
Prerequisite: Econ 3001 or BA 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.

5760 Health Economics (3)
Prerequisites: Econ 3001 or BA 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.

5900 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.

5980 Directed Readings (1-6)
Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences.

6400 Labor Economics: Theory and Public Policy (3)
Prerequisite: Econ 3001 or BA 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.

Geography

1001 Introduction to Geography (3) [MI, SS]
Prerequisite: None. 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.

1002 World Regions (3)
Prerequisite: None. 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. Each semester the geographic perspective will be applied in greater depth to one significant country such as Afghanistan, Iraq, or North Korea.

2900 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.

3900 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

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, Professor*
Ph.D., The Ohio State University
Chairperson
David Carkeet, Professor Emeritus*
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
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
Steven Schreiner, Associate Professor*
Ph.D., Wayne State University
Nanora Sweet, Associate Professor*
Ph.D., University of Michigan
Eamonn Wall, Jefferson Smurfit Professor of Irish Studies and Professor
Ph.D., City University of New York
Jane Williamson, Associate Professor Emerita
Ph.D., Bryn Mawr College
Ruth Ellen Kocher, Associate Professor
Ph.D., Arizona State University
Mary Troy, Associate Professor*
M.F.A., University of Arkansas
John Dalton, Assistant Professor
M.F.A., University of Iowa
Tivoli Majors, Assistant Professor*
Ph.D., University of Texas at Austin
Nancy Robb Singer, Assistant Professor
M. Ed., University of Missouri-Columbia
Dennis Bohnenkamp, Senior Lecturer
M.A., University of Missouri-Columbia
Ellie Chapman, Senior Lecturer Emerita
M.A., Murray State University
Susan Grant, Senior Lecturer
M.A., Southern Illinois University-Edwardsville
Nancy Gleason, Senior Lecturer
M.A., University of Missouri-St. Louis
Judy Gurley, Senior Lecturer Emerita
M.A., University of Arkansas
William Klein, Senior Lecturer
Ph.D., Michigan Technological University
Judith Linville, Senior Lecturer
M.A., University of Arkansas
Jennifer MacKenzie, Senior Lecturer
M.A., Purdue University
Terence Martin, Senior Lecturer Emeritus
Ph.D., Southern Illinois University-Carbondale
William Mayhan, Senior Lecturer
Ph.D., Washington University
Scott McKelvie, Senior Lecturer
M.A., University of Missouri-St. Louis
Lyman Peters, Lecturer
M.A., University of Missouri-St. Louis
David Rota, Senior Lecturer
Ph.D., Southern Illinois University-Carbondale
Barbara Van Voorden, Senior Lecturer
M.A., Washington University
Lynn Staley, Lecturer
Ph.D., St. Louis 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:

1100, Freshman Composition
1110, Freshman Composition for International Students
2120, Topics in Writing
2810, Traditional Grammar
3090, Practical Criticism: Writing About Literature
3100, Advanced Expository Writing
3110, Advanced Expository Writing for International Students
3120, Business Writing
3130, Technical Writing
3140, News Writing
3150, Feature Writing
3160, Writing in the Sciences
3180, Reporting
3600, The Curriculum and Methods of Teaching English
4000, Writing in the Professions
4860, Editing
4870, Advanced Business and Technical Writing
4880, Writing for Teachers
4890, Independent Writing Project

The college's foreign language requirement may be met in any language.

Satisfactory/Unsatisfactory Option

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 3000 level or above with a grade point of 2.0 or better in these courses.

English majors may take any English course on a satisfactory/unsatisfactory basis except the following:

1100, Freshman Composition
1110, Freshman Composition for International Students
3090, Practical Criticism: Writing About Literature
3100, Advanced Expository Writing
3110, Advanced Expository Writing for International Students
3120, Business Writing
3130, Technical Writing
3140, News Writing
3150, Feature Writing
3160, Writing in the Sciences
3180, Reporting
3600, The Curriculum and Methods of Teaching English
4000, Writing in the Professions
4860, Editing
4870, Advanced Business Writing
4880, Writing for Teachers
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 Engl 1100, Freshman Composition; Engl 1110, Freshman Composition for International Students; and Engl 3090, Practical Criticism: Writing About Literature.

1) Students majoring in English must take:
2310, English Literature I
2320, English Literature II
2710, American Literature I
2720, American Literature II
2810, Traditional Grammar--or test out

2) English **3090,** Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 4000-level courses in English.)

3) Students must also complete one course from five of the following 10 areas:

Area 1 Medieval English
4250, Old English Literature
4260, Chaucer
4270, Medieval English Literature

Area 2 Shakespeare
4370, Shakespeare: Tragedies and Romances
4380, Shakespeare: Comedies and Histories

Area 3 The Renaissance
4320, Elizabethan Poetry and Prose
4340, Early Seventeenth-Century Poetry and Prose
4350, Milton
4360, Tudor and Stuart Drama

Area 4 Restoration and Eighteenth-Century English
4410, Restoration and Eighteenth-Century Drama
4420, Age of Dryden and Pope
4440, Age of Johnson
4450, The Eighteenth-Century English Novel

Area 5 Nineteenth-Century English
4510, Early Romantic Poetry and Prose
4520, Later Romantic Poetry and Prose
4540, The Nineteenth-Century English Novel
4560, Prose and Poetry of the Victorian Period
4580, Literature of the Late Nineteenth and Early Twentieth Centuries

Area 6 Nineteenth-Century American
4610, Selected Major American Writers I
4620, Selected Major American Writers II
4630, African American Literature Prior to 1900
4640, American Fiction to World War I

Area 7 Twentieth-Century English/American
4650, Modern American Fiction
4660, African American Literature Since 1900
4740, Poetry Since World War II
4750, Modern British Fiction
4760, Modern Drama
4770, Modern Poetry

Area 8 Literary Criticism
4000, History of Literary Criticism
4030, Contemporary Critical Theory
4050, Forms and Modes of Poetry
4070, The Two Cultures: Literature and Sciences
4080, Narrative, Cognition, and Emotion

Area 9 Special Topics
4060, Adolescent Literature
4900, Seminar
4910, Studies in African/African American Literature, Criticism, and Diaspora
4920, Major Works of European Fiction
4930, Studies in Women and Literature
4940, Special Topics in Jewish Literature
4950, Special Topics in Literature
4960, Ethnic Literatures

Area 10 Linguistics
4800, Linguistics
4810, English Grammar
4820, History of the English Language

Work in 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 Eng 2310 or consent of the instructor as a prerequisite for all courses in Areas 1-4 and Eng 2320 or consent of the instructor as a prerequisite for all courses in Areas 5 and 7, except American literature courses. Eng 2710 or consent of the instructor is a prerequisite for all courses in Area 6, and both Eng 2710 and Eng 2720 or consent of the instructor are prerequisites for Eng 4650. All survey courses (Eng 2310, 2320, 2710, and 2720) must be taken before the major has completed 90 hours toward a degree.

Students majoring in English must complete a minimum of 12 graded hours in English courses at the 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.

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 1100, Freshman Composition, may be counted.
Eng 3090, Practical Criticism: Writing About Literature, is required.
Eng 4880/Sec Ed 4880, Writing For Teachers, is required.
Recommended courses include creative writing, journalism, and business writing.

3) English language requirements
a. Eng 2810, Traditional Grammar
Students with sufficient background may gain exemption from the Eng 2810 requirement by passing the English-Education Test of Basic Grammar. This test may be taken only twice. Certification candidates must pass Eng 2810 or the Test of Basic Grammar before applying for student teaching.
b. Eng 4810, English Grammar
c. Eng 4800, Linguistics, **or Eng 4820**, History of the English Language

4) Eng 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 3700, English Student Teaching Seminar, must be taken concurrently with Sec Ed. 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, Eng 1100, Freshman Composition, and Eng 1110, Freshman Composition for International Students. Eng 3090 is required, and 12 of the 18 hours must be in literature courses, 9 of which must be in courses at the 3000 or 4000 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 list. The GPA in courses for the certificate must be 2.0 or better, and 12 of the 18 hours must be taken at UM-St. Louis. Courses may not be taken on a satisfactory/unsatisfactory basis.

Comm 2212, Broadcast Writing and Reporting
Comm 2217, Script Writing for Business and Industry
English 2030, Poetry Writing
English 2040, Short Story Writing
English 2050, Play Writing
English 2060, Introduction to the Writing of Poetry and Fiction
English 2080, or Comm 1108, Advertising Copywriting
English 2120, Topics in Writing
English 3030, Intermediate Poetry Writing
English 3040, Intermediate Fiction Writing
English 3090, Practical Criticism: Writing About Literature
English 3100, Advanced Expository Writing
English 3110, Advanced Expository Writing for International Students
English 3120, Business Writing
English 3130, Technical Writing
English 3140 or Comm 3214, News Writing
English 3150, Feature Writing
English 3160, Writing in the Sciences
English 3180, Reporting
English 3280 or Comm 2228, Writing for Public Relations
English 4130, Advanced Poetry Writing
English 4140, Advanced Fiction Writing
English 4160, Special Topics in Writing
English 4850, Topics in Teaching Writing
English 4860, Editing
English 4870, Advanced Business and Technical Writing
English 4880, Writing for Teachers
English 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.)
English 4985, Editing Litmag
Honors 3100, Writing the City

Technical Writing Emphasis
The technical writing emphasis provides a more career-specific strategy for students enrolled in the Writing Certificate program. The technical writing emphasis is composed of **three required** courses:

3130, Technical Writing
4860, Editing
4870, Advanced Business and Technical Writing **or**
4890, Independent Writing Project

In addition, students take **three electives** for a total of 18 hours chosen from the following:

Business Administration
1800, Computers and Computer Information
3100, Contemporary Business Communication
Communication
1065, Introduction to Information Technology
Computer Science
1250, Introduction to Computer Science (Prerequisite: Math 1030, College Algebra)
English
3120, Business Writing
3140, News Writing
3150, Feature Writing
3160, Writing in the Sciences
3280, Public Relations Writing
4870, Advanced Business and Technical Writing (if **4890**) is taken as requirement)
4890, Independent Writing Project (if **4870** is taken as requirement)

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 5000-level courses. Nine hours may be taken in 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 5000, Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 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 5000 and 18 hours in composition courses (including Eng 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 5000-level courses. Nine hours may be taken in 4000-level courses approved by the department and Graduate School. Students will specialize in one genre, poetry or fiction. They must complete the following course work: (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 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 4000-level writing course in their genre for graduate credit. At least two of the writing workshops and English 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 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/SecEd 4880,** "Writing for Teachers" or an equivalent course in teaching writing
- Coursework or competency in basic computer application.

Required Core Courses (12 semester hours)
- **Eng4850/TchEd 5850,** Topics in the Teaching of Writing (designated topics, 3 sem. hrs.)
- **Eng 5880/SecEd 6880(future TchEd 6880,** Gateway Writing Project (Invitational Institute, 6 sem. hrs.)
- **TchEd. 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 5000 level course.

Suggested electives applicable to an MA in English with writing emphasis:
- **Eng. 5800,** Modern Linguistics
- **Eng. 5840,** Theories of Writing
- **Eng. 5860,** Writing/Reading Theory
- **Eng. 5870,** Composition Research
- **Eng, 5890,** Teaching College Writing

Suggested electives applicable to an M.Ed. in Elementary or Secondary Education
- **El. Ed. 4387,** Lang. & Literacy Needs of Diverse Children
- **El. Ed. 6430,** Problems in Teaching Language Arts
- **Sec. Ed. 6430,** Problems in Teaching English in Sec. School
- **El. Ed. 6432,** Research in Language Arts
- **El. Ed. 6482,** Problems & Research in Elementary Reading
- **Ed. REM 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 1100 Composition, or its equivalent, is a general prerequisite for all English courses numbered 2310 and above. This, and other specific prerequisites, may be waived by consent of the department. **English 3100** Advanced Expository Writing, its equivalent or consent of the instructor is a general prerequisite for all literature courses numbered 3000 and above for non-English majors.

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:

COMPOSITION: 2030, 2040, 2050, 2060, 3030, 3040, 4020, 4130, 4140. LANGUAGE: 4800, 4810, 4820. LITERATURE: 1120, 1130, 1140, 1150, 1160, 1170, 1200, 1700, 1710, 2200, 2230, 2240, 2250, 2280, 2310, 2320, 2330, 2340, 2350, 2710, 2720, 3250, 3800, 4060, 4000, 4070, 4080, 4250, 4920, 4260, 4270, 4030, 4050, 4320, 4340, 4350, 4360, 4370, 4380, 4410, 4420, 4440, 4450, 4510, 4520, 4540, 4560, 4580, 4610, 4620, 4640, 4650, 4750, 4770, 4760, 4740, 4930, 4940, 4950. SPECIAL OFFERINGS: 3500, 4885, 4888, 4900.

Writing Courses:

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 focus on problems of invention, organization, development, and revision in essay writing. Fulfills the campus complex writing assignments. Class discussion and small-group workshops freshman writing requirement. Does not count toward the major in English.

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 1100 in all university requirements.

2030 Introduction to the Writing of Poetry (3) [C,H]
Prerequisite: Engl 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 Engl 2060 may not take Eng 2030 for credit. The course counts toward the Certificate in Writing.

2040 Introduction to the Writing of Fiction (3) [C,H]
Prerequisite: Engl 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 Engl 2060 may not take Engl 2050 for credit. The course counts toward the Certificate in Writing.

2050 Introduction to the Writing of Plays (3) [C,H]
Prerequisite: Engl 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.

2060 Introduction to the Writing of Poetry and Fiction (3)
Prerequisites: Engl 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 Engl 2030 or 2040 may not take Engl 2060 for credit. The course counts toward the Certificate in Writing.

2080 Advertising Copywriting (3)
[Same as MS 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

2120 Topics in Writing (3) [C,H]
Prerequisite: Engl 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.

3030 Intermediate Poetry Writing (3)
Prerequisites: Engl 2030 or 2060 or the equivalent or consent of instructor. Workshop in poetry writing. The course counts toward the Certificate in Writing.

3040 Intermediate Fiction Writing (3)
Prerequisites: Engl 2040 or 2060 or the equivalent or consent of instructor. Workshop in fiction writing. The course counts toward the Certificate in Writing.

3090 Practical Criticism: Writing About Literature (3)
Prerequisites: Engl 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 satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

3100 Advanced Expository Writing (3)
Prerequisites: Engl 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 a satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

3110 Advanced Expository Writing for International Students (3)
Prerequisite: Engl 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 option. The course counts toward the Certificate in Writing.

3120 Business Writing (3)
Prerequisites: Engl 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.

3130 Technical Writing (3)
Prerequisites: Engl 1100 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 option. The course counts toward the Certificate in Writing.

3140 News Writing (3)
Same as Comm 3214 Prerequisite: Engl 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.

3150 Feature Writing (3)
Prerequisite: Engl 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.

3160 Writing in the Sciences (3)
Prerequisite: Engl 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.

3180 Reporting (3)
Prerequisite: Engl 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.

3280 Public Relations Writing (3)
Same as Comm 2228 Prerequisite: Engl 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.

4130 Advanced Poetry Writing (3)
Prerequisite: Engl 3100 or equivalent; Engl 2030 or 3030 or consent of instructor; recommended prerequisite: 2330. Advanced workshop in poetry writing. The course counts toward the Certificate in Writing.

4140 Advanced Fiction Writing (3)
Prerequisite: Engl 3100 or equivalent; Engl 2040 or equivalent or consent of instructor. Advanced workshop in fiction writing. The course counts toward the Certificate in Writing.

4160 Special Topics in Writing (3)
Prerequisites: Engl 3100 or equivalent. Special topics in writing that are not covered in other 3000-level English courses. Since the topics of Engl 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.

4850 Topics in the Teaching of Writing (3)
[Same as Edu 5850]. Prerequisites: Engl 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.

4860 Editing (3)
Prerequisites: Engl 3100 or equivalent as judged by instructor; Engl 2810 or 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.

4870 Advanced Business and Technical Writing (3)
Prerequisite: Engl 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.

4880 Writing for Teachers (3)
[Same as Sec Ed 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.

4890 Independent Writing Project (3)
Prerequisite: Engl 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.

4985 Editing *Litmag* (3)
Prerequisites: Engl 3100 or equivalent and at least two creative writing courses. Course is primarily for students nearing the end of their certificates in writing. Students in this course create *Litmag,* the UM-St. Louis student literary magazine. Students will call for submissions; they will read and select work to be published; and they will produce the magazine, dealing with issues like format, budget, proofreading, print run, advertising, distribution, and publicity. The course is offered only in the spring and culminates with the publication of *Litmag* in late April.

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 will be expected to write original poetry throughout the course. May be repeated for maximum graduate credit of fifteen hours.

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 will be expected to write original fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

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 will be expected to write original poetry and/or fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

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.

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.

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.

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.

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.

5840 Theories of Writing (3)
An analysis of major modern theories in composition

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.

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.

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.

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.

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.

6880 Gateway Writing Project (3-6)
Same as TchEd 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 Graduate Certificate in Teaching Writing.

Language Courses:

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.

4800 Linguistics (3)
Prerequisite: Engl 3100; majors, Engl 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.

4810 English Grammar (3)
Prerequisite: Engl 3100; majors, Engl 3090; Engl 2810 or passing grade on English-Education Test of Basic Grammar. A study of modern English grammar from the perspectives of traditional, structural, and transformational grammar.

4820 History of the English Language (3)
Prerequisite: Prerequisites: Engl 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.

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.

Literature Courses:

1120 Literary Types (3) [C,V,H]
The student is introduced to the various literary types, including poetry, drama, fiction, and the essay.

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.

1150 Images of the Elderly in Film (3)
[Same as Ger 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.

1160 Images of Age in Literature (3)
[Same as Ger 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.

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.

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.

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.

1710 Native American Literature (3) [C,CD,H]
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.

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 Aeschylus, 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.

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.

2240 Literature of the New Testament (3) [C,H]
A comprehensive understanding of the New Testament, its literary background, and significance for Western civilization.

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.

2280 The Contemporary World in Literature (3) [V,H, CD]
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 form the United States and England.

2310 English Literature I (3) [C,H]
The eighteenth century. Reading and analysis of representative development of English literature from the Middle Ages through the works of selected major writers.

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.

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.

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.

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.

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.

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."

3800 Topics in Women and Literature (3)
An examination of the role of women in literature, either as figures in literary works or as writers. Specific topics to vary from semester to semester. Since the topics of Engl 3800 may change each semester, the course may be repeated for credit if the topics are substantially different.

4000 History of Literary Criticism (3)
Historical survey of the principles of literary criticism from Plato to the present.

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, post-structuralist, Marxist, reader-response, psycho-sexual, and feminist.

4050 Forms and Modes of Poetry (3)
Prerequisite: Engl 3090 prerequisite or corequisite. 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).

4060 Adolescent Literature (3)
The course will expose students to the large variety of quality adolescent literature available for reading and study in middle and high school classes. It will also examine the relevance of a variety of issues to the reading and teaching of adolescent literature, among them: reader response, theory and practice; multiculturalism; literacy; the relation of adolescent literature to "classic literature"; the role of adolescent literature in interdisciplinary studies; adolescent literature as an incentive to extracurricular reading.

4070 The Two Cultures: Literature and Science (3)
Prerequisite: Engl 2320; Engl 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.

4080 Narrative, Cognition, and Emotion (3)
Prerequisite: Engl 2320; Engl 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.

4250 Old English Literature (3)
Prerequisite: Engl 3100; or, for majors, Engl 3090 prerequisite or corequisite and Engl 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.

4260 Chaucer (3)
Concentrates on the poetry of Geoffrey Chaucer, including the *Canterbury Tales*, early poetic works, and the *Troilus and Criseyde*. All readings are in the original Middle English.

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.

4320 Elizabethan Poetry and Prose (3)
Spenser, Sidney, Wyatt, and other poets of the later sixteenth century. The origin and development of prose fiction.

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.

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.

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.

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.

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.

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.

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.

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.

4450 The Eighteenth-Century English Novel (3)
The origins and early development of the English novel, from Defoe to Jane Austen.

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.

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.

4540 The Nineteenth-Century English Novel (3)
Novels of the Romantic and Victorian Periods, from Austen to George Eliot.

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.

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.

4610 Selected Major American Writers I (3)
American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others.

4620 Selected Major American Writers II (3)
American literature of the late nineteenth and early twentieth centuries: James, Twain, Stephen Crane, Dreiser, and others.

4630 African American Literature Prior to 1900 (3)
Prerequisites: (Majors) Engl 3090, (Non-majors) Engl 3100 or consent of instructor. An examination of the roots of the African American literary tradition with emphasis on 19th century texts, primarily rhetoric and oratory by African Americans, though more contemporary work and other "forms" may be included. Study will focus on captivity/slave narratives, autobiography, sermons, poetry, prose, antebellum and post-bellum essays, speeches, spirituals and other relevant materials.

4640 American Fiction to World War I (3)
Development of the novel and short story in America.

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.

4660 African American Literature Since 1900 (3)
Prerequisites: (Majors) Engl 3090 (Non-majors) Engl 3100 or consent of instructor. This course examines the literary work of African Americans, focusing on fiction, poetry, short stories and essays written after 1900 expressing the major cultural, literary and thematic concerns of African Americans writing in the twentieth century, though some pertinent 19th century works may be included. Students will become familiar with "movements" in African American literature, such as protest literature, the Black Arts Movement, and the emergence of African American women's writing among others.

4740 Poetry Since World War II (3)
Reading and analysis of contemporary poetry.

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.

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, theater of the absurd.

4770 Modern Poetry (3)
Critical reading and analysis of poetry of the late nineteenth and early twentieth centuries: Yeats, Eliot, Frost, Williams, and others.

4910 Studies in African/African American Literature, Criticism, and Diaspora (3)
Prerequisites: (Majors) Engl 3090, (Non-majors) Engl 3100 or consent of Instructor.
This course focuses on the study of select topics of African and African American Literature and Criticism and Black Diaspora texts. Topics from semester to semester may vary and include such concentration areas as the Literature of Civil Rights, African American Memoir, Trans-Atlantic Black Literature, Captivity and Freedom Narratives, Diaspora Studies, The African American Folk Aesthetic, Poetry of the Black Aesthetes, Theories of Race and Class, and Black Feminist Writing, among others.

4920 Major Works of European 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.

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.

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.

4950 Special Topics in Literature (3)
Special topics in literature that are not covered in other 4000-level English courses. Since the topics of English 4950 may change each semester, the courses may be repeated for credit if the topics are substantially different.

4960 Ethnic Literatures (3)
Prerequisites: Engl 3100 or for English Major, Engl 2320, Engl 2720, and Engl 3090, or permission of instructor. This course will examine the literary work of Ethnic Writing with a special focus on the function of identity in literature. Students will read work arranged either as a collection of various ethnic writers or as subject-specific groups, such as Women Writers of Color, Irish/Irish American Writers, West Indian Writers in the US, South African Writers, etc. Students will come to understand the socio-historic relevance of literary movements as well as significant events such as the Great Northern Migration, Eugenics, World Wars I and II, etc. in order to understand how representative American and World Literature has become more culturally diverse and inclusive in the 20th century.

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.

5030 Literary Criticism (3)
An examination of selected theories of literature.

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.

5150 Magical Realism Workshop (3)
Prerequisites: Open to student in the MFA Program and other graduate students with consent of instructor. Half of this course will be a study of the classic texts of magical realism and the other half will be a fiction workshop in which the members of the class will write in this imaginative and symbolic genre. Non–MFA students will write a critical study of magical realism.

5180 Form and Theory of Poetry (3)
Prerequisites: Open to students in the MFA Program and other graduate students with consent of instructor. This course explores various aspects of traditional and contemporary poetry. The student will gain an understanding of formal poetry-rhyme and meter-as well as of traditional types of poetry, for example, the lyric and the narrative. Throughout the course, an emphasis will be maintained on free verse and a greater understanding of its practice. Students will read selectively in the poetry, theory, and critical approaches of various periods, for example, the romantic and the modern, and within various movements, such as the symbolist or confessional.

5250 Studies in Middle English Literature (3)
Special topics in English literature before 1500.

5300 Renaissance Literature (3)
Special topics in English literature from 1500 to 1660.

5400 Eighteenth-Century Literature (3)
Studies in Augustan poetry and prose, including drama and fiction, with emphasis on background and major figures.

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.

5600 American Literature Before 1900 (3)
Selected American writers or topics from the Colonial period to 1900.

5650 Critical Studies in African American Texts (3)
This course will examine the critical and literary work of African Americans and Afro-Caribbeans. It will focus on fiction, poetry, short stories and essays expressing the major cultural, literary and thematic concerns of African American writing in the latter part of the twentieth century. Students will become familiar with "movements" in African American literature such as protest literature, the Black Arts Movement, and/or the emergence of African American Women's writing, among others. Students will utilize current scholarship, theory, and criticism as a means to investigate and study primary texts in the course.

5700 Twentieth-Century American Literature (3)
Selected American writers or topics from 1900 to the present.

5750 Twentieth-Century British Literature (3)
Selected British and Commonwealth writers of the twentieth century.

5910 Studies in Poetry (3)
Study of a few selected British and American poets.

5920 Studies in Fiction (3)
Study of a few selected British and American novelists and short story writers.

5930 Studies in Drama (3)
Study of a few selected British and American dramatists.

5950 Seminar in Special Topics (1-3)
Special topics which are not covered in other graduate-level English courses.

5970 Independent Reading (1-3)
Directed study in areas of English for which courses are not available.

6000 Thesis (6)
Prerequisite: 3.5 graduate G.P.A. Thesis research and writing on a selected topic in English studies.

Special Offerings

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.

4885 The Curriculum and Methods of Teaching English (3)
Prerequisites: Tch Ed 3310 and a near major in the subject area. (Same as Sec Ed 4885). 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. 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 Secondary Education Professional Internship, Sec. Ed 4989. This course must be completed in residence. Not available for graduate credit.

4888 English Teaching Seminar (2)
Prerequisites: Sec Ed 4885/Engl. 4885 and a near major in the subject area. Same as Sec Ed 4888. 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 4990. Not available for graduate credit.

4900 Seminar (3)
Prerequisite: Consent of instructor. Intensive reading, critical discussion, and writing on topics to be announced each semester. Since the topics of Engl 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 Emeritus*, French,
Ph.D., Ohio State University
Lorna V. Williams, Professor*, Spanish
Ph.D., Indiana University
Jeanne Morgan Zarucchi, 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
Ingeborg M. Goessl, Assistant Professor Emerita*, German
Ph.D., University of Kansas
Maite Núñez-Betelu, Assistant Professor, Spanish
Ph.D., University of Missouri-Columbia
Sheridan Wigginton, Assistant Professor, Spanish and Education
Ph.D., University of Missouri-Columbia
Deborah Baldini, Senior Lecturer, Spanish
Ph.D., University of Missouri-St. Louis
Anne-Sophie Blank, Senior Lecturer, French
M.A., Washington University
Margaret B. Phillips, Senior Lecturer, Latin
Ph.D., Saint Louis University
Susana Walter, Senior Lecturer, Spanish
M.A., Washington University
Zayda Arrillaga, Lecturer, Spanish
M.A., Harvard University
Maria Teresa Balogh, Lecturer, Spanish
M.A., Southern Illinois University, Carbondale
Martha Caeiro, Senior Lecturer, Spanish
M.A., Washington University
Donna Cays, Lecturer, Spanish
M.A., Saint Louis University
Elizabeth Eckelkamp, Lecturer, Japanese
M.A., Washington University
Elizabeth Landers, Lecturer, French
M.A., Washington University
Xingbo Li, Lecturer, Chinese
Ph.D., University of Texas, Austin
Nancy Mayer, Lecturer, ESL
M.A.T., Webster University
Denise Mussman, Senior Lecturer, ESL
M.A., University of Illinois-Chicago
Vassiliki Rapti, Lecturer, Modern Greek Studies
M.A., University of Missouri-St. Louis
Kimberley Sallee, Lecturer, Spanish
M.A., University of New Mexico
Sandra Trapani, Senior Lecturer, French
M.A., University of Missouri-Columbia
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 English as a Second Language, German, Modern Greek, 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 1001 and 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.

Satisfactory/Unsatisfactory Option
Students who have fulfilled the language requirement (13 hours: Language Courses 1001, 1002, and 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 1001 or may enroll in Language 2115. Language 2115 (a, b, and c) is the intensive study of a language and will satisfy the foreign language requirement. 2115a, 2115b, and 2115c 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 1001 course is a passing grade but not an entrance grade for a Language 1002 course. A grade of D in a Language 1002 course is a passing grade but not an entrance grade for a Language 2101 course or its equivalent. A grade of D in a Language 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.

Students may not take 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.

Degree Requirements
Students electing to major in the department must have completed the 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 (s/u) 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 1001 and 1002). The maximum number of hours that may be taken in the major is 45 (including Language 1001 and 1002). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 3264 (same as SEC ED 3274), Curriculum and Methods of Teaching Foreign Languages, Course 4364 (same as SEC ED 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 1001 and 1002, of which 12 hours must be on the 4000 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 3000 level or above with a grade point average of 2.0 or better in these courses.

Native Speakers
Native speakers must complete at least two courses at the 3200 level and four courses at the 4300 level to obtain a major in their native language.

Specific Requirements for the Major

French
Each major in French must complete the following courses:

2101, Intermediate French Language and Culture, or the equivalent
2102, Intermediate French Language and Culture II
2180, Readings in French
3200, Advanced Grammar
3211, Contemporary French Civilization
3280, French Literature I: Middle Ages to Eighteenth Century
3281, French Literature II: Nineteenth and Twentieth Centuries
and four courses at the 4000-level.

The following courses are also strongly recommended:

German 2110, Masterpieces of German Literature in Translation
Spanish 2110, Spanish Literature in Translation
History 4351, Contemporary France: Since 1870

Spanish

Each major in Spanish must complete the following courses:

2101, Intermediate Spanish Language and Culture, **or 2105**, Commercial Spanish, or the equivalent

Two of the following three:
2171, Spanish Conversation and Pronunciation
2172, Spanish Composition
2180, Readings in Spanish

3200, Syntax of the Spanish Language
3210, Hispanic Culture and Civilization: Spain, **or**
3211, Hispanic Culture and Civilization: Spanish America
3280, Introduction to Hispanic Literature: Spain
3281, Introduction to Hispanic Literature: Spanish America

and four courses at the 4000-level, **one of which must be:**
4399, Seminar on Hispanic Literature

The following courses are also strongly recommended:

French 2110, Modern French Literature in Translation, **or**
2150, European Literature in Translation: Special Topics
German 2110, Masterpieces of German Literature in Translation
History 4355, History of Spain
History 4371, History of Latin America: to 1808
History 4372, History of Latin America: Since 1808
PolSci 3253, Political Systems of South America
PolSci 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 1001, Language 1002, and Language 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
2102, Intermediate French Language and Culture II
2180, Readings in French
Plus two French courses on the 3000-level or above.

German
2170, Composition and Conversation
2180, Readings in German
Plus two German courses on the 3000-level or above.

Spanish
Two of the three
2171, Conversation and Pronunciation
2172, Composition
2180, Readings in Spanish
Plus two Spanish courses on the 3000-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 3000 and 4000 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 2102, Intermediate French Language and Culture II
French 2180, Readings in French
B. German
German 2170, Composition and Conversation
German 2180, Readings in German
C. Spanish
Spanish 2172, Spanish Composition
Spanish 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.

Minor in Applied Spanish
An applied minor in Spanish may be earned by completing five courses in Spanish beginning with Spanish 2101 or its equivalent. These courses need to be completed with a C- or better. Transfer students must complete at least two courses for the Applied Minor at UM-St. Louis. After Spanish 2101, students must complete the following courses in Spanish:

2171, Conversation and Pronunciation
2172, Composition
One of the following courses:
3200, Syntax, of the Spanish Language
3210, Hispanic Culture and Civilization: Spain

3211, Hispanic Culture and Civilization: Spanish America
3271, Advanced Spanish Conversation
Plus
3275, Practicum in Spanish

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 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

FRENCH: 2101, 2102, 2110, 2150, 2180, 3211, 3280, 3281, 4331, 4341, 4342, 4353, 4354, 4362, 4365, 4371, 4375, 4390. GERMAN: 2101, 2110, 2150, 2180, 3201, 3202, 3210, 4311, 4315, 4320, 4345, 4397, 4398, 4399.
ANCIENT GREEK: 2101. MODERN GREEK: 2101. JAPANESE: 2101. LATIN: 2101. SPANISH: 2101, 2110, 2111, 2150, 2180, 3210, 3211, 3280, 3281, 4310, 4315, 4320, 4321, 4325, 4330, 4331, 4335, 4340, 4345, 4351, 4360, 4399.

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.

3264 Curriculum and Methods of Teaching Foreign Languages (3)
Same as Sec Ed 4274. Prerequisites: Teacher Educ 3310 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.

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.

4364 Foreign Language Teaching Seminar (2)
Same as Sec Ed 4374. Prerequisite: Concurrent enrollment in Sec Ed 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 3264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with Sec Ed 3290, Student Teaching.

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.

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. This course may be repeated for credit provided that the topic is different each time.

Chinese

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.

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.

2101 Intermediate Chinese I (5)
Prerequisite: Chinese II or equivalent. Grammar review and continued development of language skills.

2102 Intermediate Chinese II (5)
Prerequisite: Chin 2101 or equivalent. Continuation of Chin 2101.

2190 Special Readings (1-3)
Prerequisite: Chin 2102 or consent of the department. Independent study through readings, reports, and conferences.

English as a Second Language

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.

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.

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.

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.

4302 Advanced ESL Listening and Note-taking (3)
Prerequisite: Successful completion of ESL 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.

4303 Advanced ESL Reading and Writing (3)
Prerequisite: Successful completion of ESL 3203, minimum TOEFL score of 500 or placement by examination. To prepare students for English 1100 or English 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.

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.

4307 Advanced Pronunciation and Accent Reduction (3)
Prerequisites: ESL 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. This course does not count toward a degree.

4390 Special Readings (1-3)
Prerequisites: Consent of instructor. Independent study through readings, reports and conferences.

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

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.

1002 French II (5)
Prerequisite: French 1001 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.

2101 Intermediate French Language and Culture I (3)
Prerequisite: Fre 1002 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.

2102 Intermediate French Language and Culture II (3), [C, H]
Prerequisite: French 2101 or equivalent. Emphasis will be placed on the study of French and Francophone culture and the continued development of language skills through meaningful communicative interaction.

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.

2111 Francophone Culture (3)
Prerequisites: French 1002 or equivalent and permission of instructor. Analyses and discussions of cultural issues in the French-speaking world through the critical reading of representative texts.

2115A, 2115B, 2115C Intensive French (15)
Prerequisites: Aptitude test and permission of department. An intensive study of French 2115a, 2115b, 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.

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.

2160 French Phonetics (3)
Prerequisite: Fre 2101 or consent of instructor. An analytic and practical study of French pronunciation. Emphasis is placed upon the articulation and practice of contemporary French sounds.

2180 Readings in French (3), [C, H]
Prerequisite: Fre 2170 or equivalent. Development of language skills through reading and discussion of literary texts.

2190 Special Readings in French (1-3)
Prerequisites: Fre 2101 and consent of the department. Independent study on mutually acceptable topics through readings, reports, and conferences.

3200 Advanced Grammar (3)
Prerequisite: Fre 2170 or equivalent. Problems in grammatical analysis.

3205 Commercial French (3)
Prerequisite: Fre 2170 or equivalent. Introduction to French business language with emphasis on technical vocabulary and correct French usage in business affairs.

3211 Contemporary French Culture (3)
Prerequisite: Fre 2180 and 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.

3271 Intermediate French Conversation (3)
Prerequisites: Fre 2170 or consent of department. Emphasis will be placed upon the further development of oral skills in French.

3280 French Literature I: Middle Ages to Eighteenth Century (3)
Prerequisite: Fre 2180 and 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.

3281 French Literature II: Nineteenth and Twentieth Centuries (3)
Prerequisite: Fre 2180 and 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.

3290 Special Readings (1-3)
Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

4300 Syntax and Stylistics (3)
Prerequisite: Fre 3200 or equivalent. Advanced theoretical and practical study of modern French syntax. Analysis of French prose style.

4311 Special Topics in French Culture (3)
Prerequisite: Junior standing or Fre 3280 or 3281 for French majors. Selected topics in French culture. This course may be repeated for credit provided the topic is different each time.

4331 Medieval and Renaissance Literature (3)
Prerequisite: Fre 3280 or 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.

4341 Seventeenth-Century French Theater and Poetry (3)
Prerequisite: Fre 3280 or 3281. Critical reading and analysis of French Classical Age theater and poetry, including works by Corneille, Moliere, Racine, and La Fontaine.

4342 Seventeenth-Century French Prose (3)
Prerequisite: Fre 3280 or 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.

4353 Eighteenth-Century French Literature (3)
Prerequisite: Fre 3280 or 3281. The philosophic movement. Selected readings of the eighteenth century, including Montesquieu, Voltaire, Diderot, and Rousseau.

4354 Eighteenth-Century French Theater and Novel (3)
Prerequisite: Fre 3280 or 3281. Critical reading and discussion of representative novels and plays of the eighteenth century.

4362 Nineteenth-Century French Novel (3)
Prerequisite: Fre 3280 or 3281. Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism.

4365 Modern French Poetry (3)
Prerequisite: Fre 3280 or 3281. A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets.

4371Twentieth-Century French Novel (3)
Prerequisite: Fre 3280 or 3281. A study of selected works by the principal novelists of the modern period.

4375 Modern French Theater (3)
Prerequisite: Fre 3280 or 3281. A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists.

4390 Special Readings (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

4399 French Seminar (3)
Prerequisite: Fre 3280 or 3281. Specialized topic in French literature. Subject to be announced by instructor in charge of seminar.

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

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.

1002 German II (5)
Prerequisite: Ger 1001 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.

2101 Intermediate German Language and Culture (3)
Prerequisite: Ger 1002 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.

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.

2115A, 2115B, 2115C Intensive German (15)
Prerequisites: Aptitude test and permission of department. An intensive study of German assuming no previous knowledge of German. 2115a, 2115b, 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.

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.

2170 Composition and Conversation (3) [C, H]
Prerequisite: Ger 2101 or equivalent. Emphasis will be placed on the development of speaking and writing skills in German.

2180 Readings in German (3) [C, H]
Prerequisite: Ger 2170 or equivalent. May be taken concurrently. Further development of language skills through readings and discussions of literary texts.

2190 Special Readings (1-3)
Prerequisites: Ger 2101 and consent of department. Independent study on mutually acceptable topics through readings, reports, and conferences.

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.

3202 The German Novelle and Drama (3)
Prerequisite: Ger 3201 or equivalent. Reading and critical analysis of selected German Novellen and dramas.

3208 Intermediate Composition and Conversation (3)
Prerequisite: Ger 2170 or equivalent. Emphasis on speaking and writing German.

3210 German Culture and Civilization (3)
Prerequisite: Ger 2180 or equivalent. A survey of the development of German culture and civilization. All reading and class work in German.

3290 Special Readings: German (1-3)
Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

4308 Advanced Composition and Conversation (3)
Prerequisite: Ger 3208 or equivalent. Continuation of Ger 3208. Designed to develop accuracy and fluency of expression in German.

4311 Special Topics in German Culture (3)
Prerequisites: At least one 3000 level German course and/or consent of instructor. Discussion of selected topics of German current events. This course may be repeated for credit provided the topic is different each time.

4315 German Classicism and Romanticism (3)
Prerequisites: Ger 3201 and one other 3000-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.

4320 German Realism and Naturalism (3)
Prerequisites: Ger 3201 and one other 3000-level course in German. Representative writers of realism and naturalism in German literature, including works of Grillparzer, Hebbel, Stifter, Keller, and Hauptmann.

4345 Modern German Literature (3)
Prerequisites: Ger 3201 and one other 3000-level course in German. Representative works from modern German literature.

4390 Special Readings (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

4397 Survey of German Literature Part I (3)
Prerequisite: Ger 3201 or 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.

4398 Survey of German Literature Part II (3)
Prerequisite: Ger 3201 or 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.

4399 German Seminar (3)
Prerequisite: Ger 3201 or 3202. Specialized topic in German literature.

Ancient Greek

1001 Ancient Greek 1 (5)
Study of grammar, syntax, and vocabulary, accompanied by readings of simple prose selections.

1002 Ancient Greek 2 (5)
Prerequisite: Anci Gk 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Greek 1. Readings and discussion from selected classical authors.

2101 Intermediate Ancient Greek Language and Culture (3)
Prerequisite: Anci Gk 1002 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.

2151 Greek and Latin in English Today (3)
Same as Latin 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.

2190 Special Readings (1-3)
Prerequisites: Gk 2101 and consent of department. Independent study through readings, reports, and conferences.

Modern Greek

1001 Modern Greek I (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.

1002 Modern Greek II (5)
Prerequisite: Mod Gk 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.

2101 Intermediate Modern Greek Language and Culture (3)
Prerequisite: Mod Gk 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.

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.

2190 Special Readings (1-3)
Prerequisite: Mod Gk 2101 or consent of the department. Independent study through readings, reports, and conferences.

Japanese

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.

1002 Japanese II (5)
Prerequisite: Japan 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.

2101 Intermediate Japanese I (5)
Prerequisite: Japan 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.

2102 Intermediate Japanese II (5)
Prerequisite: Japan 2101or equivalent. Continuation of Japan 2101.

2190 Special Readings (1-3)
Prerequisite: Japan 2102 or consent of the department. Independent study through readings, reports, and conferences.

3290 Special Readings (1-3)
Prerequisites: Japan 2190 or consent of instructor. Independent study through readings, reports and conferences.

Latin

1001 Latin 1 (5)
A study of Latin grammar, syntax, and vocabulary, accompanied by reading selections from literary texts.

1002 Latin 2 (5)
Prerequisite: Latin 1001 or equivalent. The study of vocabulary, grammar, and syntax is continued from Latin 1. Readings and discussion from selected classical authors.

2101 Intermediate Latin Language and Culture (3)
Prerequisite: Latin 1002 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.

2151 Greek and Latin in English Today (3)
Same as Anci Gk 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.

2190 Special Readings (1-3)
Prerequisites: Latin 2101 and consent of department. Independent study through readings, reports, and conferences.

Spanish

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.

1002 Spanish II (5)
Prerequisite: Span 1001 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.

2101 Intermediate Spanish Language and Culture (3)
Prerequisite: Span 1002 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.

2105 Commercial Spanish (3)
Prerequisite: Span 1002 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 2101 but both courses may not be taken for credit.

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.

2115A, 2115B, 2115C Intensive Spanish (15)
Prerequisites: Aptitude test and permission of department. An intensive study of Spanish assuming no previous knowledge of Span 2115a, 2115b, 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.

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.

2171 Spanish Conversation and Pronunciation (3) [C, H]
Prerequisite: Span 2101 or equivalent. Emphasis will be placed upon the development of oral skills in Spanish and upon the problems of Spanish pronunciation and intonation.

2172 Spanish Composition (3), [C, H]
Prerequisite: Span 2101 or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

2180 Readings in Spanish (3) [C, H]
Prerequisite: Span 2101 or equivalent. Development of language skills through reading and discussion of a variety of texts.

2190 Special Readings (1-3)
Prerequisites: Span 2101 and consent of department. Independent study through readings, reports, and conferences.

3200 Syntax of the Spanish Language (3)
Prerequisite: Span 2171, 2172, 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 3000 level course.

3210 Hispanic Culture and Civilization: Spain (3)
Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent. The development of Spanish peninsular civilization from its Roman beginnings to the present.

3211 Hispanic Culture and Civilization: Spanish America (3)
Prerequisite: Spanish 2171, 2172, or 2180 (2 of the 3 courses) equivalent. The development of the cultures and civilization of the Spanish-speaking nations of the Western hemisphere.

3260 Spanish for Business (3)
Prerequisites: Span 2171 or 2172 or equivalent and Span 3200 or permission from the instructor. Cultivation of advanced language skills with emphasis on business vocabulary, basic business and cultural concepts and situational practice to help prepare for interaction in the Spanish-speaking business world. Designed for international business students, economics students, or anyone interested in expanding their awareness of the Spanish language or wishing to explore the possibilities of positions with companies that need to conduct business in Spanish.

3271 Advanced Spanish Conversation (3)
Prerequisite: Span 2171 or consent of department. Emphasis will be placed upon the further development of oral skills in Spanish.

3275 Practicum in Spanish (3)
Prerequisites: One of the following: Span 3200, 3210, 3211, 3271 or equivalent, or consent of the instructor. A minimum of twenty hours per semester of supervised field experience in local agencies that serve the Hispanic community. A course designed for majors of various disciplines. Placement at the agencies is relevant to the enrolled student's major but depends on the availability of resources. Required weekly seminar accompanies the practicum.

3280 Introduction to Hispanic Literature: Spain (3)
Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent and Span 3200. 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 2180 is recommended for prerequisite.

3281 Introduction to Hispanic Literature: Spanish America (3)
Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent and Span 3200. 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. Span 2180 is recommended for prerequisite.

3290 Special Readings: Spanish (1-3)
Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

4300 Advanced Spanish Grammar (3)
Prerequisite: Span 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.

4310 Spanish Literature From 1898 to 1939 (3)
Prerequisite: Span 3280. A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists.

4311 Special Topics in Hispanic Culture (3)
Prerequisite: Junior standing or Span 3280 or 3281. Selected topics in Hispanic culture taught in Spanish. This course may be repeated for credit provided that the topic is different each time.

4315 Spanish Literature From 1939 to the Present (3)
Prerequisite: Span 3280. A study of cultural and literary development since the Spanish Civil War. Emphasis on leading novelists and dramatists.

4320 Realism and Naturalism in the Nineteenth-Century Spanish Novel (3)
Prerequisite: Span 3280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading novelists of the epoch (Galdos, Clarin, Pardo-Bazan, Blasco-Ibanez).

4321 Poetry and Drama of the Nineteenth Century (3)
Prerequisite: Span 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).

4325 Poetry and Drama of the Golden Age (3)
Prerequisite: Span 3280. Selected readings from the drama of Lope de Vega, Tirso de Molina, Ruiz de Alarcon, and Calderon de la Barca, and from the poetry of Garcilaso, Fray Luis de Leon, San Juan de la Cruz, Gongora, Lope de Vega, and Quevedo.

4326 Applied Linguistics in Spanish (3)
Prerequisites: Span 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.

4327 Spanish Dialectology (3)
Prerequisites: Span 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.

4330 Cervantes (3)
Prerequisite: Span 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.

4331 Picaresque and Satirical Prose (1550-1650) (3)
Prerequisite: Span 3280. A study of Renaissance and Baroque prose in its social context. All readings and discussions are in Spanish.

4335 Masterpieces of Spanish Medieval and Renaissance Literature (3)
Prerequisite: Span 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.

4340 Spanish-American Literature of the Nineteenth Century (3)
Prerequisite: Span 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.

4341 Modernismo (3)
Prerequisite: Span 3281. The genesis, development, and influence of this literary movement in Spanish-American letters with emphasis on Modernista poetry and prose.

4345 Spanish-American Literature of the Twentieth Century (3)
Prerequisite: Span 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.

4351 Spanish-American Fiction in the Twentieth Century (3)
Prerequisite: Span 3281. The role of prose fiction in Spanish American literary and cultural history from World War I to the present.

4360 Spanish American Poetry From Modernismo to the Present (3)
Prerequisite: Span 3281. A study of poetry and its role in the literary and cultural history of Spanish-American society from Modernismo to the present.

4390 Special Readings (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

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.

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. rerequisite: 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, Professor Emeritus*
Ph.D., Washington University
Andrew J. Hurley, Professor*
Ph.D., Northwestern University
Charles P. Korr, Professor Emeritus*
Ph.D., University of California, Los Angeles
William S. Maltby, 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 Emeritus
Ph.D., Saint Louis University
Robert M. Bliss, Associate Professor*
Dean of Pierre Laclede Honors College
Ph.D., University of Wisconsin
Priscilla Dowden, Associate Professor*
Ph.D., University of Indiana-Bloomington
J. Frederick Fausz, Associate Professor*
Ph.D., William and Mary
Kevin J. Fernlund, Associate Professor*
Ph.D., University of New Mexico
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
Deborah Cohen, Assistant Professor*
Ph.D., University of Chicago
Minsoo Kang, Assistant Professor*
Ph.D., University of California, Los Angeles
Laura Westhoff, Assistant Professor*
Ph.D., Washington University
Peter Acsay, Affiliate Assistant Professor*
Ph.D., Saint Louis University
Robert Archibald, Adjunct Professor*
President, Missouri Historical Society
Ph.D., University of New Mexico
Louise B. Robbert, Adjunct Professor Emeritus*
Ph.D., University of Wisconsin
John Hoover, Adjunct Professor*
Director of St. Louis Mercantile Library
M.A., University of Missouri-Columbia
Michelle Rutledge, Adjunct Instructor
M.A., University of Missouri-St. Louis

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration
The department offers work in Asian, African, European, Latin American, Mexican, 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, Mexican, East Asian, African, 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 1001, American Civilization
History 1002, American Civilization
History 1003, African-American History
History 1004, The History of Women in the United States
History 2007, The History of Missouri

History 3002, United States History: Revolution and the New Nation, 1763 to 1815
History 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 1001-1064
History 1001, American Civilization to 1865
History 1002, American Civilization 1865 to present
History 1003, African-American History
History 1004, The History of Women in the United States

Plus two of the following:
History 1030, The Ancient World
History 1031, Topics in European Civilization: The Emergence of Western Europe to 1715
History 1032, Topics in European Civilization: 1715 to the Present
Plus:
Non-Euro/American survey: **One** 3-hour course

Courses 2000-3004
One course in United States history
One course in European history
One course in Non-Euro-American history
History 4001, Special Readings (one credit hour)
History 4004, Senior Seminar

Three additional 2000 or 3000 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 4011 and 4012 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 residency minimum of 15 hours of 3000 level History courses including History 4001 (1 credit hour) and History 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 1001-1064 in each of the following areas: United States history, European history, and Non-Euro-American history
2) **One** course numbered 2000-3304, except 4011 and 4012 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
Students majoring in History can receive Social Studies Teacher Certification.

Social Studies Teacher certification students must complete the major and meet these minimum social science requirements: American history, 12 hours including History/Sec Ed 3257; European or world history, 9 hours including History/Sec/Ed 3258; United States and/or state government, 6 hours including Political Science/Sec Ed 3209; economics, 3 hours; geography, 3 hours; and 2 hours of elective social studies credit. For emphasis area advising, **you must see a History/Social Studies advisor. You must also see an advisor in the College of Education for help with Education requirements.**
For more 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

2+3 B.A. and M.A. in History

The 2+3 B.A./B.S. – Ed and M.A. in History enables students of demonstrated academic ability and educational maturity to complete the requirements for both degrees in five years of full-time study. Because of its accelerated

nature, the program requires the completion of lower-division requirements (15 hours) before entry into the three-year portion of the program. It also has prerequisites numbered 5000-5304 for graduate readings courses numbered 6101-6115. When all the requirements of the B.A/B.S. – Ed. and M.A. program have been completed, 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 137 hours, at least 6 of which must be at the senior level (History 4001 and 4004) and 37 of which must be at the graduate level (courses numbered in the 5000-5304 range and in the 6101-6115 range). In qualifying for the B.A. or B.S. – Ed., students must meet all University and College requirements, including the requirements of the undergraduate major. In qualifying for the M.A., students must meet all University and Graduate School requirements, including satisfactory completion of at least 37 credit hours.

Students should apply to the Graduate Director of the Department of History for admission to the 2+3 combined degree program in History the semester they will complete 60 undergraduate credit hours. A cumulative grade point average of 3.1 or higher and three letters of recommendation from faculty are required for consideration. Students will be admitted to the 2+3 program under provisional status until they have completed 30 credit hours in History with a grade point average of 3.0 or higher. After completion of the provisional period, and the recommendation of the Graduate Director, students can be granted full admission into the program. Students in the 2+3 program begin to pay graduate credit hour fees for all courses applied to the graduate degree after they have earned 107 hours. 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. or B.S. – Ed. Degree when they have successfully completed all the requirements for the degree.

Undergraduate History Requirements For Students in the 2+3 Program

A. The following requirements must be completed prior to enrolling in the 2+3 Program:

Two of the following courses numbered 1001-1004:
- History 1001, American Civilization
- History 1002, American Civilization
- History 1003, African American History
- History 1004, The History of Women in the United States

Plus two of the following:
- History 1030, The Ancient World
- History 1031, Topics in European Civilization: the Emergence of Western Europe to 1715
- History 1032, Topics in European Civilization: 1715 to the Present

Plus
- Non-Euro-American survey: One three hour course at the 1041-1064 level.

The following UNDERGRADUATE courses are required for majors in the 2+3 program

History 4001, Special Readings (1)
History 4004, Senior Seminar (5)
NOTE: B.S.-Ed. Students must also take History 4012, 4013 and 4014.

Graduate History Requirements For Students in the 2+3 Program

The following GRADUATE courses are required at the 5000-5304 level
One course in United States History (3)
One course in European History (3)
One course in Non-Euro-American History (3)
Three additional courses (9 hours)
Courses 6101-6123 level (selected from the seven fields available). The prerequisite for each 6101-6123 level course for 2+3 program students is one or more 5000-5304 level courses in the field as part of the B.A. (or B.S. Ed.) Program.

1. **Two 6101-6123 level courses** (one of 3 credit hours, one of 5 credit hours) in the first field: total 8 hours
   Prerequisite: two 5000-5304 level courses in the field (6 hours)
2. **Two 6101-6123 level courses** (one of 3 credit hours), in the second field: total 8 hours
   Prerequisite: one 5000-5304 level course in the field (3 hours)
3. **One 6101-6123 level course** of 3 credit hours in the third field: total of 3
   Prerequisite: one 5000-5304 level course in the field 3 hours

To fulfill the 6101-6123 requirements, a student would enroll in 8-10 hours one semester and 9-11 hours the other
NOTE: With prior approval of the Coordinator of Graduate Studies, a student may write a M.A. thesis (6 credit hours). Students writing M.A. theses may substitute three-three-hour 5000-level courses for the two five-credit hour courses in 1 and 2.

Regular M.A. Degree Requirements

The Department of History offers two regular 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 African American 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 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 3000 level (except History 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, 6100 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 5100 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 2201 or Sociological Statistics 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 6100) 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.

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 and the sample of written work.

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 Hist 6134, 6135, 6136, and 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 5588 Museum Education and Visitor Research and Anthr 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 Hist or Anthr or AH 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 3000 level except Hist 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 Hist 6135, 6136, 6137, and 6138, AH 5588, and Anthr 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(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. 1001, 1002, 1003, 1004, 1030, 1031, 1032, 1041, 1042, 1051, 1052, 1061, 1062, 1063, 1064, 2007, 2008, 2219, 2800, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3011, 3012, 3021, 3022, 3031, 3032, 3041, 3042, 3043, 3044, 3045, 3050, 3053, 3071, 3072, 3073, 3081, 3082, 3083, 3084, 3085, 3086, 3092, 3093, 3094, 3095, 3101, 3102, 3103, 3201, 3202, 3301, 3302, 3303, 3304, 3322, 4001, 4004.
The following courses fulfill the Cultural Diversity [CD] requirement; 1041, 1042, 1051, 1052, 1061, 1062, 1063, 1064, 3032, 3101, 3102, 3103, 3201, 3202, 3301, 3302, 3303, 3304.
The following courses fulfill the state [ST] requirement: 1001, 1002, 1003, 1004.

1000 Selected Topics in History (1-3)
Prerequisite: Consent of Instructor. May be repeated with consent of instructor

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.

1002 American Civilization (3) [ST,C,SS]
Continuation of Hist 1001 to the present. Course fulfills the state requirement. Hist 1001 or Hist 1002 may be taken separately.

1003 African-American History (3) [ST,V,SS]
A survey of African-American history from the beginning of the European slave trade to the modern Civil Rights era.

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.

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.

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.

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 Hist 1031 or Hist 1032 may be taken separately.

1041 East Asian Civilization (3) [CS,SS]
The development of Asian civilization from earliest times to the Manchu conquest.

1042 East Asian Civilization (3) [CS,SS]
Continuation of History 1061with emphasis on the Asian response to the Western incursion. Either Hist 1041 or History 1042 may be taken separately.

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.

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.

1061 African Civilization to 1800 (3) [C,SS,CD]
Introduction to cultural history from the emergence of early mankind to the abolition of the Atlantic slave trade.
This course fulfills the Cultural Diversity requirement.

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. Hist 1061 or Hist 1062 may be taken separately.

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.

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.

2000 Selected Topics in History (1-3)
Prerequisites: Consent of instructor. May be repeated for credit with consent of instructor.

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.

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.

2117 Greek History and Culture (3)
(Same as Anthr 2117)
Greek Civilization has had a deep impact on contemporary society in art; social, political, and economic organization; philosophy; law; medicine; and science. This course covers major aspects of Greek history and culture from antiquity to the present. It considers the major political and military events of Greek history, as well as important aspects of Greek culture, including sports and the history of the Olympic Games, literature, philosophy, and mythology.

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.

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.

2800 History of American Economic Development (3) [MI]
Prerequisites: Econ 1000 or 1001 or consent of instructor. Same as Econ 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.

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.

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.

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.

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.

3004 United States History: The Civil War Era, 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.

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.

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.

3007 United States Labor History (3)
Prerequisites: Junior standing or consent of instructor. Explores advanced topics in the history of labor in the U.S. including: globalization and labor process, changing meaning and function of gender, labor/community organizing, immigration and free trade, race and labor market segmentation.

3008 Railroads in American Life (3)
Prerequisites: Junior standing or consent of instructor. This course examines the many ways that railroads have shaped the history of the United States from the early 1830s to the present. Among the various railroad-related topics to be covered are the rise of big business, the standardization of American life, and international perspectives on transportation and travel in North America. All students will be encouraged to conduct research in the extensive railroad history collections of the St. Louis Mercantile Library.

3009 St. Louis and the West (3)
Prerequisites: Junior standing or consent of instructor. An examination of the role St. Louis played in the evolution of the North American West, both in the United States and Canada, from the fur trade of the late eighteenth century to the opening of the Texas oil fields in the early twentieth century. Special emphasis will be given to competition between river and rail transportation corridors, and hence to the rivalry that developed between St. Louis and Chicago.

3010 Aviation in American Life (3)
Prerequisites: Junior standing or consent of instructor. This course focuses on the history of aviation in the United States from balloon flights preceding the Wright brothers through the terrorist attacks in September 2001 with emphasis upon how aviation and aviators have influenced American society and culture. Themes include the evolution of aviation technology, the growth of the commercial/military aviation/aerospace industries, issues of race and gender in aviation, the development of America's commercial airlines, aviation's influence upon American art and literature, the significance of the space race, and the role of aerial weapons of war.

3011 The American West: Gateways and Corridors (3)
Prerequisites: 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.

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 ethonohistorical with emphasis placed on case studies of important native nations at key turning points in their history.

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.

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.

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.

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.

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.

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.

3043 History of Crime and Justice (3)
Prerequisite: Junior standing or consent of the instructor. Same as CCJ 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.

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.

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.

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.

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.

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.

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.

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.

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.

3072 York and Tudor England
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.

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.

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.

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.

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.

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.

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.

3086 The Age of Reformation (3)
Prerequisite: Junior standing or consent of the instructor. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

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.

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.

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.

3094 France in the Modern Age (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.

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.

3096 Britain in the Modern Age (3)
Prerequisites: Junior standing or consent of the instructor. The economic, social, and political development of modern Britain, 1750 to present.

3097 History of Spain (3)
Prerequisites: Junior standing or consent of instructor. A survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development.

3101 Modern Japan: 1850 to Present (3) [CD]
Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern Japan.

3102 Modern China: 1800 to Present (3) [CD]
Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern China.

3103 Modern History of the Asian Pacific Rim (3) [CD]
Prerequisite: None. A survey course on the modern history of the broad economic region of East and Southeast Asia as well as the region's interaction with the United States. The course is designed 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.

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.

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.

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.

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

3303 African 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.

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.

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 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. Paper on topic of student's choice required. Credit not granted for more than one of Biol 3322, Hist 3322, and Biol 5322.

3401 World History to 1500 (3)
Prerequisites: Junior standing or consent of the instructor. A survey of the history of humankind to 1500. In addition, interregional, comparative, cross cultural, and historiographical topics will be considered.

3402 World History since 1500 (3)
Prerequisites: Junior standing or consent of the instructor. A survey of the history of humankind since 1500. In addition, interregional, comparative, crosscultural, transnational, and historiographical topics will be considered.

4001 Special Readings (1-10)
Prerequisite: Consent of the instructor. Independent study through readings, reports, and conferences.

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.

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.

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.

4011 Curriculum and Methods of Teaching Secondary School History and Social Studies (3)
[Same as Sec Ed 4011]. Prerequisite: Junior standing and Tch Ed 3310. 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. This course must be taken in conjunction with Sec Ed 3289, Secondary Education Professional Internship. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence. Not available for graduate credit.

4012 Social Studies Teaching Seminar (1)
[Same as Sec Ed 4012]. Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, Sec Ed 4990. Not available for graduate credit.

4013 United States History for the Secondary Classroom (3)
Prerequisites: Tch Ed 3310 or consent of the instructor. Same as Sec Ed 4013. This course is required for Social Studies certification. 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 39-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification. Not available for graduate credit.

4014 World History for the Secondary School Classroom (3)
Prerequisites: Tch Ed 3310 or consent of the instructor. Same as Sec Ed 4014. This course is required for Social Studies certification. 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 39-hour history major requirement, but can be counted towards the 45 hour maximum and for the Social Studies Certification. Not available for graduate credit.

5000 Advanced Selected Topics in History (3)
Prerequisites: Graduate standing. Special topics in history. The course may be repeated for credit with the consent of the instructor.

5001 Advanced US History: Colonial America to 1763 (3)
Prerequisites: Graduate standing
English background of colonization; rise of distinctive New England and Southern societies; English colonial policy to the Peace of Paris.

5002 Advanced United States History: Revolution and the New Nation, 1763 to 1815 (3)
Prerequisite: Graduate standing. The American Revolution and the creation of the new nation. The young republic and the development of the first American party system.

5003 Advanced United States History: Nationalism and sectionalism, 1815 to 1860 (3)
Prerequisites: Graduate standing. 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.

5004 Advanced United States History: 1860-1900 (3)
Prerequisites: Graduate standing. The Civil War, Reconstruction, industrial and urban expansion and their impact on American life.

5005 Advanced United States History: 1900-1940 (3)
Prerequisites: Graduate standing. The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations.

5006 Advanced United States History: 1940 to the Present (3)
Prerequisites: Graduate standing. The economic, political, and social developments and crises of postindustrial United States. The role of foreign affairs in American life.

5007 Advanced Studies in United States Labor History (3)
Prerequisites: Graduate Standing. Explores advanced topics in the history of labor in the U.S. including: globalization and labor process, changing meaning and function of gender, labor/community organizing, immigration and free trade, race and labor market segmentation.

5008 Advanced Railroads in American Life (3)
Prerequisites: Graduate standing or consent of instructor. This course examines the many ways the railroads have shaped the history of the United States from the early 1830s to the present. Among the various railroad-related topics to be covered are the rise of big business, the standardization of American life, and international perspectives on transportation and travel in North America. All students will be encouraged to conduct research in the extensive railroad history collections of the St. Louis Mercantile Library.

5010 Advanced Aviation in American Life (3)
Prerequisites: Graduate Standing. This course focuses on the history of aviation in the United States from balloon flights preceding the Wright brothers through the terrorist attacks in September 2001 with emphasis upon how aviation and aviators have influenced American society and culture. Themes include the evolution of aviation technology, the growth of the commercial/military aviation/aerospace industries, issues of race and gender in aviation, the development of America's commercial airlines, aviation's influence upon American art and literature, the significance of the space race, and the role of aerial weapons of war.

5011 Advanced Studies in the American West (3)
Prerequisites: Graduate standing. 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.

5012 Advanced Studies of the Native American in American History (3)
Prerequisites: Graduate standing. Investigates Native American encounters with non-Native American peoples between 1600 and 1900, analyzing how traditional Native American cultures changed to meet a variety of new challenges introduced to North America by Europeans and Africans. The approach will be interdisciplinary and ethno-

historical with emphasis placed on case studies of important native nations at key turning points in their history.

5021 Advanced Studies in U.S. Urban History (3)
Prerequisites: Graduate standing.
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.

5022 Advanced Comparative Urban History (3)
Prerequisites: Graduate standing. 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.

5031 Advanced History of Women in the United States (3)
Prerequisites: Graduate standing. Development of women's economic, political, and social roles 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.

5032 Advanced History of Women in Comparative Cultures (3)
Prerequisites: Graduate standing. 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 these roles.

5041 Advanced Topics in American Constitutional History (3)
Prerequisites: Graduate standing. 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.

5042 Advanced Studies in U.S. Social Movements in the 20th Century (3)
Prerequisites: Graduate standing. 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.

5044 Advanced Studies in American Military History to 1900 (3)
Prerequisites: Graduate standing. 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.

5045 Advanced Studies in American Foreign and Military Affairs 1900-Present (3)
Prerequisites: Graduate standing. 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.

5050 Advanced Topics in African-American History (3)
Prerequisites: Graduate standing. 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 Sates; African Americans and America's wars; the African American intellectual tradition; or, African-Americans and the Great Migration.

5051 Advanced Topics in African-American History: From Slavery to Civil Rights (3)
Prerequisites: Graduate standing. 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.

5052 Advanced Studies in African-American History: From Civil Rights to Black Power
Prerequisites: Graduate standing. 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.

5053 Advanced Studies in African-American Women's History (3)
Prerequisites: Graduate standing. 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.

5061 Advanced Mexican American (3)
Prerequisites: Graduate Standing. This course explores Mexican American and Chicano history from the 17th century to the present. It does so by examining the making of race and ethnicity in the United States for citizens and foreigners alike. This course emphasizes change and continuity over time and focuses on themes of work, migration, race and identity.

5062 Advanced Studies in Sport and Society (3)
Prerequisites: Graduate standing. 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 in the United States since 1840, the political and economic aspects of sports, and the growth of international sports.

5071 Advanced Studies in Medieval England (3)
Prerequisites: Graduate standing.
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.

5072 Advanced Studies in York and Tudor England (3)
Prerequisites: Graduate standing. 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.

5073 Advanced Studies in Stuart England (3)
Prerequisites: Graduate standing. 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.

5081 Advanced Studies in Rome: The Republic and Empire (3)
Prerequisites: Graduate standing. 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.

5082 Advanced History of the Church: The Middle Ages (3)
Prerequisites: Graduate standing. 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.

5083 Advanced Studies in Europe in Early Middle Ages (3)
Prerequisites: Graduate standing. 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.

5084 Advanced Studies in Europe in the High and Late Middle Ages (3)
Prerequisite: Graduate standing. 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.

5085 Advanced Studies in Age of the Renaissance (3)
Prerequisites: Graduate standing. The advanced study of 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.

5086 Advanced Studies in Age of Reformation (3)
Prerequisites: Graduate standing. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

5090 Advanced Nineteenth Century Europe (3)
Prerequisites: Graduate Standing. This course is a general survey of Europe in the 'long' eighteenth century (from 1688 with the Glorious Revolution in England to the 1815 with the fall of Napoleon). Major aspects of the historical period will be covered, including political, military, social, and cultural events, upheavals, and challenges, but special emphasis will be placed on the intellectual history of the era. Philosophical, political and scientific ideas will be examined in detail to show how they shaped the modern world.

5091 Advanced Studies in European Social History Since 1715: Everyday Life (3)
Prerequisites: Graduate standing. 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.

5092 Advanced Studies in Europe 1900-1950: War and Upheaval (3)
Prerequisites: Graduate standing. The impact of World Wars I and II and the search for equilibrium.

5093 Advanced Studies in Europe, 1950-Present: Peace and Prosperity (3)
Prerequisites: Graduate standing. A survey of the main socPial, economic, political, military, and cultural trends since the outbreak of World War II.

5094 Advanced Studies in France in the Modern Age (3)
Prerequisites: Graduate standing. 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.

5095 Advanced Studies in Germany in the Modern Age (3)
Prerequisites: Graduate standing. 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.

5096 Advanced Modern Britain (3)
Prerequisites: Graduate standing
An advanced study of the economic, social, and political development of modern Britain, 1750 to present.

5097 Advanced History of Spain (3)
Prerequisites: Graduate standing. An advanced survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development.

5101 Advanced Studies in Modern Japan: 1850 to Present (3)
Prerequisites: Graduate standing. The economic, social, and political development of modern Japan.

5102 Advanced Studies in Modern China: 1800-Present (3)
Prerequisites: Graduate standing. The economic, social, and political development of modern China.

5103 Advanced Studies in Modern History of the Asian Pacific Rim (3)
Prerequisites: Graduate standing. 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.

5201 Advanced History of Latin America: To 1808 (3)
Prerequisites: Graduate standing. Latin America from the pre-Columbian civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies.

5202 Advanced History of Latin America: Since 1808 (3)
Prerequisites: Graduate standing. Emphasis on the attainment of political independence of countries in Latin America and their social, political, and economic developments in the nineteenth and twentieth centuries.

5301 Advanced Studies in West Africa to 1800 (3)
Prerequisites: Graduate standing. 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 its abolition.

5302 Advanced Studies in West Africa Since 1800 (3)
Prerequisites: Graduate standing. 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.

5303 Advanced Studies in African Diaspora to 1800 (3)
Prerequisites: Graduate standing. 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.

5304 Advanced Studies in African Diaspora since 1800 (3)
Prerequisites: Graduate standing. 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.

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 6013 may not be used to meet History degree requirement.

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. Hist 6014 may not be used to meet History degree requirement.

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.

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.

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.

6104 Readings in African-American History (3 or 5)
Prerequisite: Graduate standing and consent of instructor. Directed readings and writings on selected topics and areas in African-American history.

6110 St. Louis: Metropolitan and Regional History (3 or 5)
Prerequisites: Graduate standing and consent of instructor. Directed readings and writing. Principal areas of study will include the St. Louis region before European settlement; St. Louis as an 'urban frontier'; the impact of steam powered transportation; the crisis of slavery and the Civil War; St. Louis in the Gilded Age; the 1904 World's Fair and the origins of urban planning; the impact of the automobile; the St. Louis region in the Great Depression and W.W. II; suburbanization, urban renewal and desegregation; from the Schoemehl years to St. Louis 2004.

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.

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.

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.

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.

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.

6121 Directed Readings (1-3)
Prerequisite: Consent of a member of the doctoral faculty. Directed research at the graduate level.

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.

6123 Thesis Seminar (2-6)
Prerequisite: Graduate standing and consent of instructor. Thesis research and writing on a selected topic in history.

6131 Doctoral Proseminar in Metropolitan History (3)
Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

6132 Doctoral Proseminar in Regional History (3)
Prerequisites: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

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.

6135 Foundations of Museology I (3)
Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6035 and Anthr 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.

6136 Foundations of Museology II (3)
Prerequisite: Hist 6035 and consent of Director of Museum Studies Program. Same as Art 6036 and Anthr 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.

6137 Effective Action in Museums (3)
Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6037 and Anthr 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.

6138 Museum Studies Master's Project (4)
Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6038 and Anthr 6138. Research and writing/exhibit development on a selected topic.

7001 Doctoral Proseminar in American History to 1865 (3)
Prerequisite: Consent of instructor and advanced graduate standing. Symantec review of the literature and methods of the field.

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.

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.

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.

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.

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.

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.

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.

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.

7010 Doctoral Research Seminar in European History Since 1715 (3)
Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

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.

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.

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.

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.

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.

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.

7017 Dissertation Research (1-18)
Prerequisite: Completion of the doctoral qualifying examination. Dissertation research and writing on a selected topic in history.

7018 Doctoral Presentation Seminar (1-3)
Prerequisite: Previous enrollment in Hist 7017 and consent of department. Discussion and presentation of research in progress for the doctoral dissertation. Normally taken in the final year.

7019 Directed Readings for Doctoral Students (1-6)
Prerequisite: Consent of a member of the doctoral faculty. Directed research at the doctoral level.

7101 Doctoral Research in Metropolitan History (3)
Prerequisites: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

7102 Doctoral Research Seminar in Regional History (3)
Prerequisites: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

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 Emeritus*
Ph.D., University of California, Los Angeles
William Connett, Professor Emeritus*
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
Stephen Selesnick, Professor Emeritus*
Ph.D., University of London
Jerrold Siegel, Professor Emeritus*
Ph.D., Cornell University
Grant V. Welland, Professor Emeritus*
Ph.D., Purdue University
Sanjiv K. Bhatia, Associate Professor*
Ph.D., University of Nebraska-Lincoln
Haiyan Cai, Associate Professor*
Ph.D., University of Maryland
Uday K. Chakraborty, Associate Professor*
Ph.D., Jadavpur University
Ronald Dotzel, Associate Professor*
Ph.D., Rutgers University
Wenjie He, Associate Professor*
Ph.D., University of Georgia
Cezary Janikow, Associate Professor*
Ph.D., University of North Carolina at Chapel Hill
Qingtang Jiang, Associate Professor*
Ph.D., Peking University
Kyungho Oh, Associate Professor*
Ph.D., Purdue University
Frederick Wilke, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia
Shiying Zhao, Associate Professor*
Ph.D., University of South Carolina
Galina N. Piatnitskaia., Affiliate Associate Professor
Ph.D., Moscow Physical-Technical Institute
Hyung Woo Kang, Assistant Professor*
Ph.D. KAIST
Martin Pelikan, Assistant Professor*
Ph.D., University of Illinois at Urbana-Champaign
Donald E. Gayou, Affiliate Assistant Professor
Ph.D., Iowa State University
John Antognoli, Senior Lecturer
M.A., University of Missouri-St. Louis
Monica L. Brown, Lecturer
M.S., Southern Illinois University, Edwardsville
Aarti Dahiya, Lecturer
M.S., 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
Nazire Koc, Lecturer
M.S., Southern Illinois University, Carbondale
Shahla Peterman, Senior Lecturer
M.S., University of Wisconsin-Madison
Emily Ross, Senior Lecturer
M.A., Saint Louis University

*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 mathematics, the B.S. in computer science, and, in cooperation with the College of Education, the B.S.Ed. in secondary education with an emphasis in mathematics. The department also offers minors in computer science, mathematics, and statistics.

At the graduate level, the department offers a Master of Arts (M.A.) degree in mathematics, a Master of Science (M.S.) degree in computer science and a Ph.D. in applied mathematics.

The program leading to the B.A. in mathematics provides a broad grounding in different areas of mathematics, giving students the depth necessary to pursue various aims such as graduate studies or other career choices.

The B.S. in mathematics provides a substantial background in mathematics, statistics and computer science to produce graduates who can work as mathematicians. Both the B.A. and the B.S. in mathematics allow optional courses that enable the student to focus on areas of interest like pure or applied mathematics.

The B.S.Ed. in secondary education with an emphasis in mathematics introduces students to those branches of mathematics most relevant to the teaching of secondary-school mathematics.

The B.S. in computer science prepares students for employment in modern computing technology and careers in computer science.

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.

The Ph.D. in applied mathematics prepares students for a leadership role involving research and development in both industrial and academic settings.

Students may enroll in any of these graduate programs on a part-time basis.

Career Outlook
A degree in mathematics or computer science prepares well-motivated students for interesting careers.
Our graduates find 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, law and other related fields where they find logical and analytical skills valuable.

Graduates in computer science and mathematics from UM-St. Louis are located throughout the country, and they also have a strong local presence. They have careers in banking, health care, engineering and manufacturing, law, finance, public service, management, and actuarial management. Many are working in areas such as systems management, information systems and data management, scientific computing, and scientific positions in the armed services. Others have careers in education, especially at secondary and higher levels.

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 Edward Z. Andalafte Memorial Scholarship** is a monetary award for outstanding undergraduate students at the sophomore level or higher. 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 3000 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.

Many students are qualified, as a result of having studied calculus in high school, to begin their major with Math 1900, Analytic Geometry and Calculus II, or Math 2000, Analytic Geometry and Calculus III. These students are urged to consult with the department before planning their programs. Credit for Math 1800, Analytic Geometry and Calculus I, will be granted to those students who complete Math 1900 with a grade of C- or better.

Similarly, students who are ready to begin their computer science studies with CS 2250, Programming and Data Structures, will be granted credit for CS 1250, Introduction to Computing, once they complete CS 2250 with a grade of C- or better.

Degree Requirements in Mathematics

All mathematics majors in all undergraduate programs must complete the mathematics core requirements.

Core Requirements
1) The following courses are required:
1250, Introduction to Computing
1320, Applied Statistics I
1800, Analytic Geometry and Calculus I
1900, Analytic Geometry and Calculus II
2000, Analytic Geometry and Calculus III
2020, Introduction to Differential Equations
2450, Elementary Linear Algebra
3000, Discrete Structures
4100, Advanced Calculus I

2) The related area requirements as described below must be satisfied.

Students seeking a double degree, either within this department or with another department, do not have to fulfill the related area requirements.

Bachelor of Arts in Mathematics.
In addition to the core requirements and the College of Arts and Sciences' foreign language requirement, three mathematics courses at the 4000 level or higher must be completed. Of these, one must be **4400,** Introduction to Abstract Algebra

B.S.Ed. in Secondary Education with emphasis in mathematics.
In addition to the core requirements and the required education courses, three mathematics/statistics courses at the 4000 level or higher must be completed. Of these, one must be
4400, Introduction to Abstract Algebra, and one must be chosen from:
4660, Foundations of Geometry **or**
4670, Introduction to Non-Euclidean Geometry

Bachelor of Science in Mathematics
In addition to the core requirements, the B.S. in Mathematics degree requires:
i) Completing all of the following:
4160, Functions of a Complex Variable
4400, Introduction to Abstract Algebra
4450, Linear Algebra
ii) Completing an additional three courses numbered above 4000 in mathematics, statistics or computer science, at least one of which must be in mathematics/statistics.

Degree Requirements in Computer Science

Candidates for the **Bachelor of Science in Computer Science** degree must complete the following work:
1) Computer Science
1250, Introduction to Computing
2250, Programming and Data Structures
2260, Object-Oriented Programming with C++
2700, Computer Systems: Architecture and Organization
2710, Computer Systems: Programming
2750, Advanced Programming with Unix
3000, Discrete Structures
3130, Design and Analysis of Algorithms
4250, Programming Languages
4280, Program Translation Techniques
4760, Operating Systems

2) Mathematics and Statistics
1320, Applied Statistics I
1800, Analytic Geometry and Calculus I
1900, Analytic Geometry and Calculus II
2000, Analytic Geometry and Calculus III
2450, Elementary Linear Algebra

3) Philosophy
4458, Ethics and the Computer

4) Five more elective courses, numbered above 3000 if in computer science, and above 2010 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.

5) Satisfy the related area requirements as described below.

Related Area Requirements

Candidates for the B.A. in Mathematics must satisfy the requirements in one of the groups below with a grade of C- or better. Candidates for the B.S.Ed. in Mathematics, B.S. in Mathematics and B.S. in Computer Science must satisfy the requirements in two of the groups below with a grade of C- or better.

Candidates for the B.S. in Computer Science may not choose group 1. Candidates for the B.A. in Mathematics, B.S.Ed. in Mathematics, or B.S. in Mathematics may not choose group 2 or 3. If candidates for any of these three latter degrees choose group 4, then they cannot apply either of the two courses listed in that group towards the additional 4000 level mathematics courses (beyond the core requirements) that must be completed for each of these degrees.

Students seeking a double degree, either within this department or with another department, do not have to fulfill the related area requirements.

Related Area Courses

1) Computer Science:
Two courses from the following list:
2250, Programming and Data Structures
2700, Computer Systems: Architecture and Organization
3130, Design and Analysis of Algorithms
4140, Theory of Computation
4410, Computer Graphics
4440, Digital Image Processing

2) Mathematics (Analysis):
Two courses from the following list:

2020, Introduction to Differential Equations
4030, Applied Mathematics I
4100, Advanced Calculus
4160, Functions of a Complex Variable
4230, Numerical Analysis I

3) Mathematics (Algebra):
Two courses from the following list:
4350,Theory of Numbers
4400, Introduction to Abstract Algebra
4450, Linear Algebra
4550, Combinatorics

4) Statistics:
4200, Mathematical Statistics I
4210, Mathematical Statistics II

5) Biology:
2102, General Ecology
2103, General Ecology Laboratory

6) Biology:
2012, Genetics
4182, Population Biology

7) Chemistry:
1111, Introductory Chemistry I
1121, Introductory to Chemistry II

8) Chemistry:
3312, Physical Chemistry I
and another 3000-level, or above, chemistry course.

9) Economics:
4100, Introduction to Econometrics,
and one of either:
4110, Applied Econometrics **or**
4130, Econometric and Time Series Forecasting

10) Philosophy:
3360, Formal Logic
3380, Philosophy of Science
4460, Advanced Formal Logic

11) Physics:
2111, Physics: Mechanics and Heat
2112, Physics: Electricity, Magnetism, and Optics

12) Physics:
3221, Mechanics
and another 3000 level, or above, physics course

13) Business Administration:
3320, Introduction to Operations Management
and one of the following courses:
4330, Production and Operations Management – Logistics
4324, Production and Operations Management-Service Systems
4312, Business Forecasting
4326, Quality Assurance in Business
4350, Operations Research

14) Engineering:
2310, Statics
2320, Dynamics

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:
1250, Introduction to Computing
2250, Programming and Data Structures
2700, Computer Systems: Architecture and Organization

and two additional courses computer science courses numbered above 2700.

A minimum of two computer science courses numbered above 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:
1800, Analytic Geometry and Calculus I
1900, Analytic Geometry and Calculus II
2000, Analytic Geometry and Calculus III

and two additional three-hour mathematics courses numbered above 2400. A minimum of two mathematics courses numbered 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:
1320, Applied Statistics I
4200, Mathematical Statistics I

and two additional courses in statistics numbered above 4200. A minimum of two statistics courses numbered above 2000 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, a 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 applicant's 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.

Applicants for the Ph.D. program must, in addition, submit three letters of recommendation and scores from the Graduate Record Examination (GRE) general aptitude test.

Computer Science Program
Applicants to the Graduate Program in Computer Science must meet the general graduate admission requirements of the Graduate School, described in the U.M.-St. Louis *Bulletin*. Students seeking admission to the program must formally apply for admission to the Graduate School either online or by traditional means. Additional requirements are listed below.

Applicants must have at least a bachelor's degree, preferably in computer science or in a related area. Applicants with bachelor's degrees outside of computer science must demonstrate significant proficiency in computer science, either by taking the GRE subject area examinations or by explicitly showing competence in the following areas:

- C programming (CS 1250 and CS 2250).
- An object oriented programming language (C++ or Java) (CS 2260).
- A course in data structures (CS 2250).
- A course in assembly language programming, computer architecture, or computer organization (CS 2700).
- A course in design and analysis of algorithms (CS 3130).
- Programming with Unix, including shell scripts and tools (CS 2750).

Students must also have satisfactorily completed mathematics courses equivalent to the following UM-St. Louis courses:

- Two semesters of calculus (Math 1800 and 1900).
- A course in elementary linear algebra (Math 2450).
- A course in discrete mathematics (Math 3000).
- An elementary course in probability or statistics (Math 1320).

A student missing some of the above requirements may be admitted on restricted status if there is strong supportive evidence in other areas. The student will have to take the missing courses, or demonstrate proficiency to the satisfaction of the Graduate Director. Special regulations of the Graduate School that apply to students 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 30 hours of course work. All courses numbered below 5000 must be completed with grades of at least B. The courses taken must include those listed below in group A together with additional courses discussed in B.

Students who have already completed courses equivalent to those in A) may substitute other courses numbered above 4000. All substitutions of courses for those listed in A) require the prior approval of the graduate director.

A) Mathematics core:
4100, Advanced Calculus
4160, Functions of a Complex Variable
4450, Linear Algebra

B) M.A. candidates must also complete 15 hours of course work numbered 5000 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 B) 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 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.

Doctor of Philosophy in Applied Mathematics
The requirements for the Ph.D. degree include the following:

1. Course work
2. Ph.D. candidacy
3. Doctoral dissertation

The requirements are described in detail below.

1. Course Work
A minimum of 60 hours of courses numbered 4000 or above. At least 33 hours must be in courses numbered 5000 or above. All courses numbered below 5000 must be completed with a grade of at least B. Up to 9 hours can be in Math 7990, Ph.D. Dissertation Research. Courses outside the Department of Mathematics and Computer Science will require approval of the graduate director.

2. Advancement to Ph.D. Candidacy
Advancement to Ph.D. candidacy is a four-step process consisting of:

A) Completing 18 hours of 5000 level courses other than Math 7990, Ph.D. Dissertation Research.
B) Passing the comprehensive examination.
C) Selecting a Ph.D. committee and preparing a dissertation proposal.
D) Defending the dissertation proposal.

Qualifying Examination
A student must fulfill the following requirements.

Basic Requirement
Pass one written examination covering the fundamental topics from advanced calculus, complex variables and linear algebra-Math 4100, Math 4160, and Math 4450. This examination would normally take place within the first 12 credit hours of study after admission to the Ph.D. program

Additional Requirement
After fulfilling the basic requirement above, the student must meet one of the following:
1. Pass a written examination in an area of the student's interests. This area will be approved by the graduate committee and will be based on a set of two or more graduate courses taken by the student. This examination would normally take place within the first 24 credit hours of study after admission to the Ph.D. program.
2. Write a survey paper in a specialized area under the direction of a member of the graduate faculty. The student should propose to take this option when he/she has already finished at least 2 graduate level courses and has the approval of the graduate committee. The paper should be submitted within four semesters, at which time an oral examination given by a committee of at least three members of the graduate faculty must be passed.

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.

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 7990, Ph.D. Dissertation Research. A maximum of 9 hours in Math 7990 can be used toward the required hours of work in courses numbered 5000 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. Of these, at least 18 hours must be numbered 5000 or above, with at least one course numbered 6000 or above, chosen with the prior approval of the Graduate Director. All courses numbered below 5000 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 satisfy all of the following core requirements:

- Operating Systems, CS 4760
- Programming Languages, CS 4250
- Computer Systems, CS 5700
- Software Engineering, CS 5500
- Advanced Data Structures and Algorithms, CS 5130

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.

Additionally, students must attend at least five different seminars or colloquium presentations in the department.

Thesis Option
Students may choose to write an M.S. thesis 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 CS 6900, Thesis. Students writing an M.S. thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

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 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:

MATHEMATICS: 1020, 1030, 1035, 1070, 1100, 1102, 1105, *1150, 1800, 1900, 2000, 2020, 2450, *2510, 3000, **3520, 4030, 4060, 4100, 4110, 4160, 4230, 4240, 4270, 4350, 4400, 4410, 4450, 4500, 4550, 4580, 4620, 4640, 4660, 4670, 4800, 4890.
COMPUTER SCIENCE: 1010, 1050, 1220, 1250, 2010, 2210, 2250, 2260, 2700, 2710, 2750, 3000, 3130, 4010, 4020, 4040, 4050, 4140, 4250, 4280, 4300, 4410, 4440, 4500, 4520, 4540, 4560, 4610, 4620, 4730, 4740, 4760, 4770, 4780, 4880, 4890.
PROBABILITY AND STATISTICS: 1310, 1320, 2320, 4200, 4210, 4260, 4300, 4310, 4320, 4330, 4390.
*Mathematics 1150 and 2510 fulfill this requirement only for students seeking the B.S. in Education degree in Early Childhood Education, Elementary Education, Special Education, or Middle School Mathematics.
**Mathematics 3250 fulfills this requirement only for students seeking the B.S. in Education degree in Middle School Mathematics.

Mathematics

0005 Intermediate Algebra (3)
Prerequisite: A current working knowledge of Beginning Algebra. Preparatory material for college level mathematics courses. Covers systems of linear equations and inequalities, polynomials, rational expressions, exponents, quadratic equations, graphing linear and quadratic functions. This course carries no credit towards any baccalaureate degree.

1020 Contemporary Mathematics (3) [MS]
Prerequisites: A satisfactory score on the university's mathematics placement examination, obtained in the six months prior to enrollment in this course. 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 1020 if credit has been granted for Stat 1310, Math 1800, 1100, 1102, or 1105. Concurrent enrollment in Math 1020 and any of these courses is not permitted.

1030 College Algebra (3) [MS]
Prerequisites: A satisfactory score on the university's mathematics placement examination, obtained in the six months prior to enrollment in this course. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, and solutions to systems of equations.

1035 Trigonometry (2) [MS]
Prerequisite: Math 1030 or concurrent registration. A study of the trigonometric and inverse trigonometric functions with emphasis on trigonometric identities and equations.

1070 Applied Mathematics of Interest (2)
Prerequisites: Math 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.

1100 Basic Calculus (3) [MS]
Prerequisite: Math 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 1800 and 1100.

1102 Finite Mathematics (3)
Prerequisite: Math 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.

1105 Basic Probability and Statistics (3) [MS]
Prerequisites: Math 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 1310, Stat 1320 and Math 1105.

1150 Structure of Mathematical Systems I (3) [MS]
Prerequisites: 45 hours of college credit and one of the following: Math 1030, 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.

1320 Applied Statistics I (3)
Prerequisites: Math 1800 or 1100 or equivalent. See Statistics 1320 in Probability and Statistics section that follows.

1800 Analytic Geometry and Calculus I (5) [MS]
Prerequisites: Math 1030 and 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. This course provides an introduction to differential and integral calculus. Topics include limits, derivatives, related rates, Newton's method, the Mean-Value Theorem, Max-Min problems, the integral, the Fundamental Theorem of Integral Calculus, areas, volumes, and average values.

1900 Analytic Geometry and Calculus II (5)
Prerequisite: Math 1800. Topics include conic sections, rotations of axes, polar coordinates, exponential and logarithmic functions, inverse (trigonometric) functions, integration techniques, applications of the integral (including mass, moments, arc length, and hydrostatic pressure), parametric equations, infinite series, power and Taylor series.

2000 Analytic Geometry and Calculus III (5)
Prerequisite: Math 1900. Topics include vectors, cylindrical and spherical coordinates, vector-valued functions, arc length and curvature, functions of several variables, partial and directional derivatives, gradients, extrema, Lagrange multipliers, multiple integrals, change of variables, surface area, vector fields, Stokes' Theorem.

2020 Introduction to Differential Equations (3)
Prerequisite: Math 2000. Topics will be chosen from linear differential equations, equations with constant coefficients, Laplace transforms, power series solutions, systems of ordinary differential equations.

2320 Applied Statistics II (3)
Prerequisite: Stat 1320
Same as Stat 2320 See Stat 2320 in Probability and Statistics section that follows.

2450 Elementary Linear Algebra (3)
Prerequisites: Math 1100 or 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.

2510 Structure of Mathematical Systems II (3) [MS]
Prerequisite: Math 1150. An introduction to probability and statistics. An intuitive study of elementary geometry. Introduction to the deductive theory of geometry and to coordinate geometry.

3000 Discrete Structures (3)
Prerequisite: Math 1900 or 1100, and CS 1250 or equivalent. Same as CS 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 2250 and Math 3000.

3520 Structure of Mathematical Systems III (3) [MS]
Prerequisite: Math 2510. Together with Math 1150 and 2510, this course teaches mathematics necessary for middle school mathematics certification. Topics from Math 1150

and 2510 are continued. Other topics include geometric constructions, similarity, coordinate geometry, normal distribution, combinatorics, and trigonometry. Credit will be granted only toward the B.S. in education degree in Early Childhood Education, Elementary Education, Middle School Education and Special Education.

4030 Applied Mathematics I (3)
Prerequisites: Math 2020 and 2450. Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

4060 Applied Differential Equations (3)
Prerequisite: Math 2020 and 2450. The study of ordinary differential equations and partial differential equations is continued with applications in such areas as physics engineering and biology.

4100 Advanced Calculus I (3)
Prerequisite: CS/Math 3000 and 2000. Limits, continuity, and differentiability of functions of one and several variables, sequences and series, and the Riemann Stieltjes integral.

4110 Advanced Calculus II (3)
Prerequisite: Math 4100. Continuation of Math 4100.

4160 Functions of a Complex Variable (3)
Prerequisite: Math 2020 or both CS/Math 3000 and Math 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.

4200 Mathematical Statistics I (3)
Prerequisites: Math 1320 and Math 2000.
Introduction to the theory of probability and statistics using concepts and methods of calculus.

4210 Mathematical Statistics II (3)
Prerequisites: Math 4200. Continuation of Math 4200. Sampling distribution, estimation theory, properties of estimators, hypothesis testing, Neyman-Pearson Theorem, likelihood ratio tests, introduction of analysis of variance and linear models. Basics of some nonparametric procedures.

4230 Numerical Analysis I (3)
Prerequisites: Math 2020, 2450, and ability to program in an upper-level language. Solutions of equations, interpolation and approximation, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers.

4240 Numerical Analysis II (3)
Prerequisite: Math 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.

4270 The Calculus of Variations (3)
Prerequisites: Math 2020 and 4100. Methods for optimizing functionals and their application. The Euler-Lagrange condition. Hamilton's principle, two dimensional variational problems, and isoperimetric problems. Approximate methods for the solution of variational problems.

4350 Theory of Numbers (3)
Prerequisite: CS/Math 3000 and Math 2000 or consent of instructor. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

4400 Introduction to Abstract Algebra I (3)
Prerequisite: CS/Math 3000 and Math 2000 or consent of the department. Introduction to groups, rings, and fields, with emphasis on groups and rings.

4410 Introduction to Abstract Algebra II (3)
Continuation of Math 4400 with emphasis on fields.

4450 Linear Algebra (3)
Prerequisites: CS/Math 3000, Math 2000 and Math 2450. Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, and quadratic forms.

4500 Special Readings (1-10)
Prerequisites: CS/Math 3000, Math 2000 and consent of instructor.

4550 Combinatorics (3)
Prerequisite: CS/Math 3000 and Math 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.

4580 Mathematical Logic (3)
Prerequisite: CS/Math 3000 and Math 2000 or Philosophy 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.

4620 Projective Geometry (3)
Prerequisites: CS/Math 3000, Math 2000 and Math 2450. Analytic approach to the study of projective spaces. Theorems of Desargues, Pascal, and Brianchon. Projective properties of conics.

4640 Introduction to Differential Geometry (3)
Prerequisite: CS/Math 3000 and Math 2000. Geometry of curves and surfaces in Euclidean three-space. Calculus on a surface. Intrinsic geometry of surfaces.

4660 Foundations of Geometry (3)
Prerequisite: CS/Math 3000 and Math 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.

4670 Introduction to Non-Euclidean Geometry (3)
Prerequisite: CS/Math 3000 and Math 2000 or consent of the department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry.

4800 Introduction to Topology (3)
Prerequisite: CS/Math 3000 and Math 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.

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.

5010 Theory of Ordinary Differential Equations (3)
Prerequisite: Math 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.

5020 Classical Applied Mathematics (3)
Prerequisites: Math 4100, 4160, and 4450 or consent of instructor. The course gives the deriviation of equations of mathematical physics such as Navier-Stokes' equations, Euler's equations, equations of elastic materials, and equations of electrodynamics, using scaling and conservation principles. The course also includes elements of the calculus of variations, the Euler-Lagrange equations and Hamiltonian theory.

5040 Calculus of Variations (3)
Prerequisites: Math 2020, 4100 and 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.

5050 Computational Curves and Surfaces (3)
Prerequisite: Math 4100, 4230 and 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.

5060 Computational Harmonic Analysis (3)
Prerequisites: Math 4030, Math 4100, and Math 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.

5100 Theory of Functions of a Real Variable (3)
Prerequisites: Math 4100 and 4800. The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

5110 Differentiable Manifolds (3)
Prerequisites: Math 4100, 4450, and 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.

5140 Set Theory and Metric Spaces (3)
Prerequisites: Math 4100 or consent of instructor.
Naïve set theory, cardinal arithmetic, ordinal numbers, the axiom of choice and equivalents, metric spaces, convergence, continuity, compactness, contraction principles and applications. Construction of completions and examples like the real numbers and p-adic numbers. Other topics could include the Stone-Weierstrass theorem and metrizability theorems.

5160 Functions of a Complex Variable (3)
Prerequisites: Math 4100, 4160, and 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.

5270 Numerical Linear Algebra (3)
Prerequisite: Math 4230 and Math 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.

5300 Partial Differential Equations (3)
Prerequisites: Math 4100, 4160, 4450, and 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.

5320 Applied Statistics (3)
Prerequisites: Math 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.

5350 Operations Research-Deterministic Models (3)
Prerequisites: Math 4450 or equivalent. Same as MSIS 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.

5360 Operations Research-Stochastic Models (3)
Prerequisites: Math 4200 or equivalent. Same as MSIS 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.

5370 Quality Management (3)
Prerequisite: MSIS 5300 or Math 4200 or consent of instructor. Same as MSIS 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, Baldridge 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.

5420 Algebra (3)
Prerequisites: Math 4400 and 4450. Basic fundamentals of the theory of groups, rings and fields.

5500 Directed Readings (1-6)
Prerequisite: Consent of instructor. Independent readings at an advanced level.

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.

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.

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.

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.

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.

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.

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.

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.

6070 Time-Frequency Analysis (3)
Prerequisites: Math 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.

6080 Advances in Wavelet Analysis (3)
Prerequisite: Math 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.

6200 Probability Theory (3)
Prerequisite: Math 5100 may be taken concurrently. Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, and branching processes.

6440 Lie Groups (3)
Prerequisites: Math 4400 and 5110. The course provides an introduction to Lie Groups, Lie Algebras, and their representations.

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

6700 Functional Analysis (3)
Prerequisites: Math 4450 and 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.

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 6900 to a degree.

7990 Ph.D. Dissertation Research (1-9)
Prerequisites: Completion of comprehensive exams. May be taken for no more than nine hours.

Computer Science

1010 Introduction to Computers and the Internet (3)
Prerequisites: Same as for Math 1020 and Math 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 1010 and BA 1800.

1015 Web Structures I (1)
Prerequisites: CS 1010 and Math 1030 or equivalent. Introduction to Web page design and management using software such as GoLive. Topics include graphical user interfaces, page templates and dynamic Web page publishing.

1016 Web Structures II (1)
Prerequisites: CS 1015(or equivalent) Introduction to Java and Java Script. This is a project oriented course using Java and software such as GoLive for Web page design and Internet programming.

1050 User Interface Design and Event-Driven Programming with Visual Basic (3)
Prerequisite: CS 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.

1220 Computers and Programming (3)
Prerequisite: Math 1800 or 1100, or a grade of at least B in Math 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 1804 and CS 1220.

1250 Introduction to Computing (3)
Prerequisite: Math 1800 or 1100, or a grade of at least B in Math 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.

2010 An Introduction to Java and Internet Programming (3)
Prerequisite: Math 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.

2210 The C Programming Language (3)
Prerequisite: CS 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 1250

and CS 2250 but without the C language. It may not be taken for credit if the student has taken CS 2250 with C.

2250 Programming and Data Structures (3)
Prerequisite: CS 1250. A continuation of CS 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.

2260 Object Oriented Programming with C++ (3)
Prerequisite: CS 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.

2700 Computer Systems: Architecture and Organization (3)
Prerequisite: CS 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.

2710 Computer Systems: Programming (3)
Prerequisite: CS 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.

2750 Advanced Programming with Unix (3)
Prerequisite: CS 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.

3000 Discrete Structures (3)
Prerequisites: Math 1900 or 1100, and CS 1250 or equivalent. Same as Math 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 3000, Math 250, and Math 3000.

3010 Web Programming Techniques (3)
Prerequisites: CS 2750. A project-oriented course which provides a survey of current technologies including markup languages (XHTML, CSS, XML), scripting languages (Java Script), client/server computing CGI/PERL/PHP), applets, Web protocols, session tracking, and other topics as time permits.

3130 Design and Analysis of Algorithms (3)
Prerequisites: CS 2250, CS/Math 3000, Math 2450 and Math 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.

4020 Java and Internet Programming (3)
Prerequisites: CS 3010 or consent of instructor. A project-oriented course which examines core Java features and selected Internet applications, such as networking, servlets, applets, AWT/SWING graphics, database connectivity, and XML.

4040 Electronic Commerce Protocols (3)
Prerequisites: CS 2750 and Math 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.

4050 User Interface Development (3)
Prerequisites: CS 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.

4140 Theory of Computation (3)
Prerequisites: CS 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.

4250 Programming Languages (3)
Prerequisites: CS 2260. 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.

4280 Program Translation Techniques (3)
Prerequisites: CS 2700, CS 2260, CS/Math 3000, Math 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.

4300 Introduction to Artificial Intelligence (3)
Prerequisites: CS 2260, CS 2750 and CS 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.

4410 Computer Graphics (3)
Prerequisites: CS 2260, CS 2750 and CS 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.

4440 Digital Image Processing (3)
Prerequisites: CS 2260, CS 2750 and CS 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.

4500 Software Engineering (3)
Prerequisites: CS 2260 and CS 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.

4520 Object-Oriented Analysis and Design (3)
Prerequisites: CS 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.

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.

4560 Software Development Processes (3)
Prerequisites: CS 4500 or CS 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.

4610 Database Management Systems (3)
Prerequisites: CS 2750 and CS 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.

4620 Information Retrieval (3)
Prerequisites: CS 2750 and CS 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.

4730 Computer Networks and Communications (3)
Prerequisite: CS 2750 and Math 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.

4740 Client-Server Architectures (3)
Prerequisites: CS 2750 and Math 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.

4760 Operating Systems (3)
Prerequisites: CS 2750, CS 2700, Math 1320 and Math 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.

4770 Operating Systems for Telecommunications (3)
Prerequisites: CS 4520 or MS/IS 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.

4780 Systems Administration and Computer Security (3)
Prerequisites: CS 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.

4880 Individual Studies (1-3)
Prerequisites: CS 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.

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.

5010 Advanced Java Programming (3)
Prerequisites: CS 4020 or consent of instructor. Coverage will emphasize advanced Java topics and may include, J2EE, Beans/Enterprise Beans, RMI/RPC, JDBC, Servlets/JSP, development tools such as Ant, frameworks, such as Eclipse, and Java IDEs.

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.

5320 Introduction to Evolutionary Computation (3)
Prerequisite: CS 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.

5340 Introduction to Machine Learning (3)
Prerequisite: CS 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.

5360 Expert Systems (3)
Prerequisites: CS 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.

5380 Introduction to Neural Networks (3)
Prerequisites: CS 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.

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.

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.

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.

5500 Software Engineering (3)
Prerequisites: Graduate standing and consent of the instructor. This course introduces software engineering as a discipline, discusses stages of the software life cycle, compares development models such as waterfall, prototyping and incremental/iterative, covers requirements analysis, effort and cost estimation, compares structured and object-oriented analysis and design methods. It also discusses verification/validation, quality assurance, software reliability, testing methods, maintenance, documentation, project management and team structure, metrics, and available tools. Credit not granted for both CS 4500 and CS 5500.

5520 Object Oriented Analysis and Design (3)
Prerequisites: CS 4500, CS 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 4520 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 4520 and CS 5520.

5540 Software Systems Architectures (3)
Prerequisites: One of the following: CS 4500, CS 5500, CS 4520, CS 5520, 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 4540 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 4540 and CS 5540).

5560 Software Development Processes (3)
Prerequisites: One of the following: CS 4500, CS 5500, CS 4520, CS 5520, 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 4560 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 4560 and CS 5560.

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.

5620 Intelligent Information Retrieval (3)
Prerequisites: CS 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.

5640 Multimedia Information Systems (3)
Prerequisites: CS 4410 or CS 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.

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.

5730 Client/Server Computing (3)
Prerequisite: CS 4770 or MSIS 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.

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.

5760 Advanced Operating Systems and Network Management (3)
Prerequisites: CS 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.

5780 Systems Administration (3)
Prerequisite: CS 4760 or 4770 and MSIS 6838. 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.

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.

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 5880 and CS 6900.

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.

6320 Advances in Evolutionary Computation (3)
Prerequisites: CS 5320 or consent of instructor.
This course focuses on some advanced topics in Genetic and Evolutionary Computation, both theoretical and practical. Topics may include competent genetic algorithms, learning classifier systems, and Markov models. A substantial part of the course will be based on recent literature. Projects may involve literature research, developing specific applications or implementing a specific model.

6340 Genetic Programming (3)
Prerequisites: CS 5320 or consent of instructor. This course provides an in-depth exploration of Genetic Programming, including advanced concepts such as scalability, evolution of modularity and regularity, and constrained evolution with CGP, STGP, or CFG-based GP. It may be reading, research, or application oriented.

6410 Topics in Computer Graphics (3)
Prerequisites: CS 4410 or consent of instructor. This course covers various aspects of advanced graphics techniques, such as geometric modeling, rendering, shading, texturing, and computer animation. The course provides an in-depth study of recent advanced topics in computer graphics.

6420 Topics in Image Processing and Multimedia (3)
Prerequisites: CS 5400, CS 5420 or consent of instructor. This course covers new developments in digital image processing, computer vision, and multimedia. Topics to be covered may include image databases, object tracking, and large-scale data visualization.

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 5880 and CS 6900.

Probability and Statistics

1310 Elementary Statistical Methods (3)
Prerequisite: Math 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 1310, Statistics 1320, and Math 1105.

1320 Applied Statistics I (3)
Prerequisite: Math 1800 or 1100 or equivalent.
This is the first course of a one-year sequence in introductory probability and statistics. It provides a comprehensive introduction to those models and methods which are most likely to be encountered by students in their careers in applied mathematics and the sciences. Topics include descriptive statistics, basics of probability theory, random variables and their distributions, sampling distributions, confidence intervals, and hypothesis testing for population means and population proportions. A student may not receive credit for more than one of Stat 1320, Stat 1310 and Math 1105.

2320 Applied Statistics II (3)
Prerequisite: Math 1320, or equivalent. This course is a continuation of Stat 1320. It provides a survey of a variety of important statistical methods which are useful in analyzing data. Topics include single and multi-factor analysis of variance, simple and multiple linear regression, analysis of categorical data, and non-parametric statistical methods.

4200 Mathematical Statistics I (3)
Prerequisites: Math 1320 and Math 2000. Introduction to theory of probability and statistics using concepts and methods of calculus.

4210 Mathematical Statistics II (3)
Prerequisite: Math 4200. Continuation of Statistics 4200. Sampling distributions, estimation theory, properties of estimators, hypothesis testing, Neyman-Pearson Theorem, likelihood ratio tests, introduction of analysis of variance and linear models. Basics of some nonparametric procedures.

4260 Introduction to Stochastic Processes (3)
Prerequisite: Math 4200. Basic theory and applications of stochastic processes. Markov chains, martingales, recurrent and transient states, stationary distributions, ergodic theorem, renewal processes, discrete martingales and stationary processes.

4300 Multivariate Analysis (3)
Prerequisites: Math 2450 and Math 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.

4310 Analysis of Variance and Design of Experiments (3)
Prerequisites: Math 2450 and Math 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

4320 Regression Models in Statistics (3)
Prerequisites: Math 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.

4330 Nonparametric Methods in Statistics (3)
Prerequisite: Math 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.

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 determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

Department of Philosophy

Faculty

Ronald Munson, Professor, Chairperson*
Ph.D., Columbia University
Stephanie A. Ross, Professor*
Ph.D., Harvard University
Lawrence H. Davis, Associate Professor*
Ph.D., University of Michigan
Thaddeus Metz, Associate Professor*
Ph.D., Cornell University
Berit Brogaard, Assistant Professor*
Ph.D., Suny-Buffalo
Jon McGinnis, Assistant Professor*
Ph.D., University of Pennsylvania
Robert Northcott, Assistant Professor*
Ph.D., The London School of Economics and Political Science
Gualtiero Piccinini, Assistant Professor*
Ph.D., University of Pittsburgh
Eric Wiland, Assistant Professor*
Ph.D., University of Chicago
Andrew Black, Affiliate Assistant Professor
Ph.D., University of Massachusetts-Amherst
James G. Buickerood, Affiliate Assistant Professor
Ph.D., Rutgers University
Kimberly A. Maricic, Affiliate Assistant Professor
Ph.D., Washington University
Donald W. Mertz, Affiliate Associate Professor
Ph.D., Saint Louis University
David J. Griesedieck, Senior Lecturer
M.A., Princeton University
Peter Fuss, Professor Emeritus
Ph.D., Harvard University
Robert M. Gordon, Research Professor
Ph.D., Columbia University
John E. Clifford, Associate Professor Emeritus
Ph.D., University of California-Los Angeles
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* members of Graduate Faculty

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 also 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 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 of 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 1120: Asian Philosophy and Philosophy 1125: Islamic Philosophy satisfy 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 including all courses for the major at or above the 3000 level must be taken in residence in the UM-St. Louis Department of Philosophy.

Option One: The Major in Philosophy
30 hours of course work are required:
1) **Philosophy 3360:** Formal Logic

2) History of Philosophy
Twelve hours in history of philosophy, at least 6 hours of which must be at the 4000 level. Choose from Philosophy 3301-3307 and Philosophy 4401- 4422. Philosophy 1110 and 1111 **together** count as one 3-hour history course.

3) Normative Philosophy
One course from the following:

Philosophy 3374; Philosophy of Art
Philosophy 4430: Social and Political Philosophy
Philosophy 4435: Classical Ethical Theories
Philosophy 4438: Recent Ethical Theory
Philosophy 4474: Topics in Aesthetics

Phil 4474 cannot be used to satisfy both the normative requirement and requirement 5), the "other disciplines" requirement.

4) Core Requirement
One course from the following:

Philosophy 4440: Theories of Knowledge
Philosophy 4445: Metaphysics

5) Philosophy and Other Disciplines
Choose one course from the **Philosophy 4470 – 4490** sequence.

6) Philosophy 4491: Senior Seminar

7) Additional hours numbered above 3000 to complete 30 hours of course work. Other than the courses specified above, only courses at the 3000 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, Phil 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
30 hours of course work in philosophy are required:

1) Logic
Choose one of the following two courses:
Philosophy 3360: Formal Logic
Philosophy 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 4000 level. Choose from the sequences Phil 3301-3307 and Phil 4401-4422. Phil 1110 and 1111 **together** count as one 1000-level history course.

3) 4000-level Courses
A total of nine hours or more at the 4000 level other than courses used to satisfy 2) and 4). *Video courses cannot be used to satisfy course requirements for this program.*

4) Philosophy 4491: Senior Seminar

5) Additional hours numbered above 2000 to complete thirty hours of coursework.

Departmental Honors
Majors with a 3.2 or higher grade point average in all courses may, with the department's consent, earn departmental honors by completing at least six hours, but not more than nine, of Phil 4450: Special Readings in Philosophy, submitting an acceptable thesis before the end of the senior year, and passing an oral examination.

In such cases, the thirty hours required for the major will include the credit earned in Philosophy 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 Department's undergraduate advisor as soon as possible in order to have their transcripts evaluated and plan a program of study.

The Minor
15 hours of course work in philosophy are required:

1) Philosophy 3360: Formal Logic
2) A total of twelve hours at or above the 3000 level, at least six of which must be at the 4000 level. *Video courses cannot be used to satisfy course requirements for this program.*

Minors are strongly encouraged, though not required, to take Phil 4491: Senior Seminar.

All course work for the minor except Philosophy 3360 must be taken in residence in the UM-St. Louis Department of Philosophy.

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

Master of Arts in Philosophy
To earn a 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 prior to admission or by taking Phil 5561: Graduate

Formal Logic here at UM-St. Louis. Students should take Phil 5400: Proseminar in Philosophy in the first year of residency. Students may elect to write a thesis, in which case up to 6 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:

1) At least half of the courses must be at the 5000 level.-
2) At least one course (3 credit hours) must be chosen from each of the following four subject areas:

- Value Theory (including aesthetics courses only with departmental approval); and
- History of Philosophy;
- Logic/Philosophy of science
- Epistemology/Metaphysics

The comprehensive exams must be taken in two of these four areas.

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 4000-5999 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 3360: Formal Logic and two courses in the 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. Phil 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 5000 and among which must be at least three in each of the four subject areas listed for the regular M.A. program, and one of which must be Philosophy 5400: Proseminar in Philosophy. Students are also required to earn a passing grade in comprehensive exams in each of two of these subject 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 six hours may be taken in Philosophy 5495: 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 sixty undergraduate credit hours or as soon thereafter as possible. It is also recommended that students complete 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 fifteen credit hours in it with a grade point average of 3.0 or higher. After the 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 throughout the Combined Program. Students who officially withdraw from the Combined Program who have successfully completed all the requirements for the B.A. degrees will be awarded the B.A. degree.

PHILOSOPHY REQUIREMENTS FOR STUDENTS IN THE 2+3 PROGRAM

A. To be taken in the junior year:
Choose four courses (12 credit hours) from the following:
1) **Philosophy 3360:** Formal Logic

2) Two courses in the History of Philosophy, each at the 2000 level or above.

3) One additional Philosophy course, at the 2000 level or above.

B. To be taken in the senior year:
Choose six courses (18 credit hours) from the following:
4491: Senior Seminar
Either
Philosophy 4445: Metaphysics or
Philosophy 4440: Theories of Knowledge.
Two History courses, each at the upper division
One course from the sequence 4470-4490
Choose one of the following:
Philosophy 4430: Social and Political Philosoph
Philosophy 4435: Classical Ethical Theory
Philosophy 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 5000 level.

2) Courses must be selected so that the student has taken at least one from each of the four subject areas in the course of completing the 2 + 3 program:
History of Philosophy
Value Theory
Logic/Philosophy of Science
Epistemology/Metaphysics

3) **Philosophy 5400**: Proseminar in Philosophy

D. Graduate Exit Requirements
Each student must pass a comprehensive exam in two of the four subject areas listed in 2) of part C above.

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: 1090, 1091, 1110, 1111, 1120, 1125, 1130, 1150, 1160, 1185, 2250, 2255, 2252, 2253, 2254, 2255, 2256, 2258, 2274, 2275, 2280, 2281, 3301, 3302, 3303, 3304, 3305, 3307, 3360, 3369, 3372, 3374, 3379, 3380, 3383, 3385, 4401, 4402, 4405, 4406, 4407, 4408, 4409, 4410, 4420, 4421, 4422, 4430, 4435, 4438, 4439, 4440, 4445, 4450, 4451, 4452, 4453, 4457, 4458, 4460, 4465, 4469, 4470, 4474, 4476, 4478, 4479, 4482, 4483, 4484, 4485, 4487, 4490, 4491.

Phil 1120, 1125 fulfill the Cultural Diversity requirement [CD]. Courses marked [CV] or [H] fulfill the valuing and humanities requirements, respectively.

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.

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.

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.

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.

1120 Asian Philosophy (3) [CD,V,H]
Critical study of selected philosophical classics of India and China.

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.

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.

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.

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.

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.

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.

2252 Philosophical Foundations of Criminal Justice (3) [V,H]
(Same as CCJ 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?

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.

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.

2255 Environmental Ethics (3)
Examines such issues as the value of wilderness, our duties to animals and the natural world, pollution and development, environmental justice.

2256 Bioethics (3) [V,H]
Same as Gerontology 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.

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.

2274 Philosophy and Literature (3)
Critical reading and discussion of selected literary works in terms of the philosophical problems they present.

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.

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.

2281 The Darwinian Heritage (3)
Prerequisites: Six hours of philosophy preferably including Phil 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.

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.

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.

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.

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.

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.

3307 American Philosophy (3)
Prerequisite: Six hours of philosophy or consent of instructor. A study of selected American philosophers.

3360 Formal Logic (3)
An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

3369 The Marxist Heritage (3)
Same as Pol Sci 3690 and ID 3690. Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

3372 Philosophical Issues in Education (3)
A critical study and discussion of selected topics in education, including the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the functions of a university.

3374 Philosophy of Art (3)
Same as Art 3374. A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

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.

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.

3385 Issues in Philosophy of Religion (3)
Prerequisite: Phil 1185 or Phil 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.

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.

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.

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.

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.

4407 Kant (3)
Prerequisite: Six hours of philosophy, Phil 3304 or equivalent recommended, graduate standing, or consent of instructor. A systematic study of the Critique of Pure Reason.

4408 Hegel (3)
Prerequisite: Six hours of philosophy, Phil 3304 or equivalent recommended, graduate standing, or consent of instructor. A critical study of the writings and influence of Hegel.

4409 Phenomenology and Existentialism (3)
Prerequisites: Six hours of philosophy, Phil 3305 or equivalent recommended, graduate standing, or consent of instructor. A study of some major representatives of these schools from Kierkegaard to the present.

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.

4420 Topics in Non-Western Philosophy (3)
Prerequisites: Phil 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.

4421 The Analytic Tradition I: Origins to Logical Positivism (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Phil 3305 and Phil 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.

4422 The Analytic Tradition II: Post-Positivism to Present (3)
Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Phil 3305 and Phil 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.

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.

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.

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.

4439 Topics in Ethical Theory (3)
Prerequisite: Phil 4435, 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.

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.

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.

4450 Special Readings in Philosophy (1-3)
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.

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.

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.

4453 Feminist Ethical Theory (3)
Prerequisite: Phil 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 Nodding, and Virginia Held. The course explores as well differences among female, feminist, and lesbian ethical standpoints.

4457 Media Ethics (3)
Prerequisite: nine hours of philosophy or nine hours of communication or consent of instructor. (Same as MS 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.

4458 Ethics and the Computer
Prerequisites: 6 hours of course work above the level of Math 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.

4460 Advanced Formal Logic (3)
Prerequisite: Phil 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.

4465 Theory of Decisions and Games (3)
Prerequisite: Six hours of Philosophy and junior standing, Pol Sci 6401 (or the equivalent) or consent of instructor. Same as Pol Sci 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 Dilemna, 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.

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.

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.

4474 Topics in Aesthetics (3)
Prerequisite: Phil 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.

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.

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.

4479 Philosophy of Cognitive Science (3)
Prerequisite: Phil 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.

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.

4483 Topics in History and Philosophy of Science (3)
Prerequisites: Six hours of philosophy, Phil 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.

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.

4485 Topics in Philosophy of Religion (3)
Prerequisite: Phil 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.

4487 Topics in Philosophy of Law (3)
Same as CCJ 4487. Prerequisite: CCJ 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.

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.

4491 Senior Seminar (3)
Prerequisites: Senior standing; at least 12 hours of philosophy at the 1000 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.

5400 Proseminar in Philosophy (3)
Prerequisites: Graduate standing. Required of all entering graduate students in the fall semester of the first full year of residency. Topics vary. Other graduate students may take this course with the permission of the instructor and the director of graduate studies in Philosophy. Students will be expected to write papers, give presentations, and join in class discussion.

5410 Seminar in Significant Figures in Philosophy (3)
Prerequisites: Graduate Standing. In-depth study of work of a single philosopher. The philosopher selected will be announced prior to registration. This is a variable-content course any may be taken again for credit with consent of instructor and department chair.

5478 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.

5515 Ethics in Criminology and Criminal Justice (3)
Same as CCJ 5515. Prerequisite: CCJ 1110, 1120, 1130, 2110, 2220, Phil 2253, 2254, 2256, 4430, 4435, 4438, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

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 such 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.

5531 The Nature of Punishment (3)
Same as CCJ 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.

5533 Philosophy of Law (3)
Same as CCJ 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.

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?

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.

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.

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.

5555 Ethical and Legal Issues in Criminal Justice (3)
Same as CCJ 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.

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.

5561 Graduate Formal Logic (3)
Prerequisites: Graduate standing; permission of the department. A rigorous introduction to formal logic that includes sentential calculus, predicate logic, and completeness proofs. May be taken for graduate credit only with permission of the graduate advisor and chair.

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.

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.

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.

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.

5595 Thesis Research (1-6)
Prerequisites: Graduate standing or consent of instructor. May be repeated to a total of six credit hours.

6421 Philosophy of Education (3)
Prerequisites: Graduate standing or consent of instructor. Same as Educational Foundations 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.

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
Thomas F. George, Professor and Chancellor
Ph.D., Yale University
Peter Herwig Handel, Professor*
Ph.D., University of Bucharest
Bob Londes Henson, Professor*
Ph.D., Washington University
Richard Dean Schwartz, Professor Emeritus*
Ph.D., University of Washington
Philip Fraundorf, Associate Professor*
Ph.D., Washington University
Vasudevan Lakshminarayanan, Associate Professor*
Ph.D., University of California-Berkeley
Kyungho Oh, Associate Professor*
Ph.D., Purdue University
Wilfred H. Sorrell, Associate Professor*
Ph.D., University of Wisconsin
Zhi Xu, Associate Professor
Ph.D., University of Pittsburgh
Sonya Bahar, Assistant Professor*
Ph.D., University of Rochester
Erika Gibb, Assistant Professor
Ph.D., Rensselaer Polytechnic Institute
Mark L. Spano, Adjunct Professor
Ph.D., University of Maryland
Mary Jane Kernan, Affiliated Assistant 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, Adjunct 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 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: 1001, 1011, 1012, 1022, 1050, 1051, 1121
Atmospheric Science: 1001
Geology 1001, 1002
Physics: 1001, 1011, 1012, 2111, 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:
2111, Mechanics and Heat
2112, Electricity, Magnetism, and Optics

3200, Mathematical Methods of Theoretical Physics
3221, Mechanics
3223, Electricity and Magnetism
3231, Introduction to Modern Physics I

Also required are:
Math 1800, Analytic Geometry and Calculus I
Math 1900, Analytic Geometry and Calculus II
Math 2000, Analytic Geometry and Calculus III
Math 2020, Introduction to Differential Equations
Chem 1111, Introductory Chemistry I or equivalent
Computer Science 1250, Introduction to Computer Science

Note Students are urged to begin the calculus sequence [Math 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 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 3000 or 4000 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:**

Physics
4310, Modern Electronics
4311, Advanced Physics Laboratory I
4323, Modern Optics
4331, Introduction to Quantum Mechanics
4341, Thermal and Statistical Physics

and three electives at the 4000 level in physics or astronomy.

Astronomy
1050, Introduction to Astronomy I
or
1051, Introduction to Astronomy II

Also required are:

Math
2450, Elementary Linear Algebra
4030, Applied Mathematics I
or
4320, Numerical Analysis I

Chemistry
1121, Introductory Chemistry II, or equivalent
and one elective in math or computer science at or above the 3000 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 physics courses are required:**

Physics
4323, Modern Optics
4331, Introduction to Quantum Mechanics
4341, Thermal and Statistical Physics

Astronomy
1050, Introduction to Astronomy I
1051, Introduction to Astronomy II
4301, Astrophysics
4322, Observational Astronomy

And one physics electives at the 4000 level. With consent of the astronomy adviser, there may be substitution of Astronomy 1001, 1011 or 1012 for 1050 or 1051.

Also required are:

Math
2450, Elementary Linear Algebra
4030, Applied Mathematics I
or
4230, Numerical Analysis I

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
2310, Statics
2320, Dynamics
Joint Electrical Engineering
2800, Introduction to Electrical Networks
Physics
4310, Modern Electronics
4311, Advanced Physics Laboratory I
4323, Modern Optics

4331, Introduction to Quantum Mechanics
4341, Thermal and Statistical Physics
Math
1320, Applied Statistics I
Also required are **two** additional courses in computer science or numerical analysis at or above the 3000 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 core curriculum, the following physics and biology courses are required:

Physics
4310, Modern Electronics
Biology
1811, Introductory Biology I: From Molecules to Organisms
1821, Introductory Biology II: Organisms and the Environment
and two additional physics electives at the 4000 level.
Also required are:
Chemistry
1121, Introductory Chemistry II
2612, Organic Chemistry I
2622, Organic Chemistry II
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 1011 and Physics 1012 sequence in basic physics may substitute these courses for two required core courses Physics 2111 and Physics 2112, respectively. However, this is not the recommended route because Physics 2111 and 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
4341, Thermal and Statistical Physics
Biology
1811, Introduction to Biology I: From Molecules to Organisms
1821, Introduction to Biology II: Organisms and the Environment
2482, Microbiology
2483, Microbiology Laboratory

Optometry (fourth year only)
8020, Geometric Optics
8060, Biochemistry
8120, Ocular Optics
8130, Physiological Optics Lab
8150, Physical Optics and Photometry Lab

Also required are:

Chemistry
1121, Introductory Chemistry II
2612, Organic Chemistry I
2622, Organic Chemistry II
2633, Organic Chemistry Laboratory
Psychology
1003, General Psychology **and one elective** in psychology
Statistics,
Math 1320, Applied Statistics I or **Psych 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
3380, Philosophy of Science
Biology
1811, Introductory Biology I: From Molecules to Organisms
1821, Introductory Biology II: Organisms and the Environment
Chemistry
1111, Introductory Chemistry I
1121, Introductory Chemistry II
Geology 1001, General Geology
Atmospheric Science 1001, Elementary Meteorology
Biology 1202, Environmental Biology or another environmental science
Physics
2111, Physics: Mechanics and Heat
2112, Physics: Electricity, Magnetism, and Optics

Physics Endorsement
Physics
3200, Mathematical Methods of Theoretical Physics
3221, Mechanics
3223, Electricity and Magnetism
3231, Introduction to Modern Physics
4310, Modern Electronics
4311, Advanced Physics Laboratory I
4802, or Sec Ed 3240, Methods of Teaching Science in Secondary Schools
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:

2111, Mechanics and Heat
2112, Electricity, Magnetism, and Optics
3200, Mathematical Methods of Theoretical Physics
and two additional emphasis courses chosen from the following physics courses:
3221, Mechanics
3223, Electricity and Magnetism
3231, Introduction to Modern Physics I
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 2000 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 5000 or 6000 level; of the latter 15, a maximum of 6 credit hours may be counted for thesis research. The writing of a thesis is optional. 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 *William L. Clay Center for Molecular Electronics,* which opened in 1996, is a facility bringing together both physicists and chemists for research in materials science. A focus of the Center is to foster collaborations between its members and colleagues in industry. The Center houses the Scanned Tip and Electron Image Lab where research at the forefront of nanotechnology is conducted with transmitted electron, scanning probe, and scanning electron microscopes in a building uniquely designed for such work. The Center is spearheading the formation of the Missouri NanoAlliance, a nano-characterization and synthesis network that will facilitate the sharing of resources across Missouri. The *Center for Neurodynamics,* established in 1995, conducts research at the interface between physics and biology, with a focus on the roles of noise and stochastic synchronization in neutral processing. The Center has an on-site high speed (CCD) imaging system for studying the spatial dynamics of neural activity in the mammalian brain. Collaborations with St. Louis University will permit high time-resolution magnetoencephalography (MEG) image analysis, making use of a high-speed Internet 2 connction, UMSL's new high-speed (3.8 GHz) 128-node Beowulf cluster, and Missouri's first MEG machine. Astronomers make use of national facilities at Kitt Peak, Cerro Tololo, and Mauna Kea Observators. The Department maintains both machine and electronic shops. The University provides

email and internet services through numerous student labs equipped with computers with Windows and MacIntosh operating systems, flat-bed document scanners, and color printers. The Department maintains a network of UNIX workstations with standard software packages for word and image processing. Campus computing facilities include a UNIX system and workstations. The department maintains a workstation for image processing. The 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: 6000 level and 4000, 5000 level course
Total: 6 hours
Second Semester
Physics: 6000 level and 4000, 5000 level course
Total: 6 hours
Third Semester
Physics: 6000 level and 4000, 5000 level course
Physics 6490, Thesis Research or Seminar
Total: 9 hours
Fourth Semester
Physics: 6000 level and 4000 level course
Physics 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 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 Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

ASTRONOMY: 1001, 1011, 1012, 1022, 1050, 1051, 1121.
ATMOSPHERIC SCIENCE: 1001.
GEOLOGY: 1001, 1002.
PHYSICS: 1001, 1011, 1012, 2111, 2112.

Astronomy

1001 Cosmic Evolution/Introductory Astronomy (4) [MI, MS]
Planets: A brief survey of their motions and properties. Stars: Observations, including stellar spectra and colors; stellar evolution, and star clusters. Galaxies: Structure and content of the Milky Way Galaxy, its relationship to other galaxies. Cosmology: The origin and evolution of the universe. Three classroom hours and two multimedia laboratories.

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 classroom hours per week.

1012 The Violent Universe and the New Astronomy (3) [MS]
A nontechnical 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 classroom hours and one observing session per week.

1022 Practical Astronomy (2) [MS]
Prerequisite: Astron 1001 or 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 nonscientists.

1050 Introduction to Astronomy I (3) [MS]
Prerequisites: Math 1030 and 1035. A survey of the history of astronomy from the ancient times to present. Theories for the formation and evolution of the solar system and the general features of the solar system and planetary motions are discussed. The physical concept of gravity is presented. The detailed properties of the planets, comets, and asteroids are reviewed, concentrating on recent results from space missions.

1051 Introduction to Astronomy II (3) [MS]
Prerequisites: Math 1030 and 1035. A survey of astronomy beyond the solar system. Topics include stars and stellar evolution, neutron stars, and black holes. The physical concept of light and the design of telescopes is discussed in detail. The structure of the Milky Way Galaxy and the large scale structure of the universe are explored. Dark

matter, quasars, and active galactic nuclei are discussed in the context of theories for the formation and evolution of the universe. Course does not need to be taken in sequence with Astronomy 1050.

1121 The Search for Extraterrestrial Life (3) [MS]
Prerequisite: Astron 1001 or 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.

4301 Astrophysics (3)
Prerequisite: Phys 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.

4322 Observational Astronomy (4)
Prerequisites: Astron 1050, Astron 1051, and Math 2000 or consent of instructor. Tools of the astronomer: telescopes, spectroscopy, photoelectric 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

1001 Elementary Meteorology (4) [MS,MI]
Prerequisite: Math 1020 or equivalent. An elementary course covering atmospheric phenomena, weather, and climate. Topics included are temperature, pressure, and moisture distributions in the atmosphere and dynamical effects such as radiation, stability, storms, and general circulation. Four classroom hours per week with one hour being a learning enhancement session to include demonstrations and exercises on problem solving.

Geology

1001 General Geology (4) [MI,MS]
Earth materials and processes, including geological aspects of the resource/energy problem. Laboratory involves identification of common rocks and minerals.

1002 Historical Geology (4) [MI,MS]
Prerequisite: Geol 1001. 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.

1053 Oceanography (3)
The atmospheric and ocean circulations; the chemistry and geology of the deep sea; and their effects on the distribution of marine organisms.

Physics

1001 How Things Work (3) [MS]
Provides a practical introduction to understanding common life experiences by using physical intuition and basic ideas of physics. Powerful scientific principles are demonstrated through topics ranging from airplane wings to compact disk players, from lightning strikes to lasers.

1011 Basic Physics (4) [MI,MS]
Prerequisite: Math 1800 or 1100 may be taken concurrently. A course specifically designed for students in health and life sciences, covering the topics of classical mechanics, heat and sound. Will not fulfill the Physics 2111 requirement for physics, chemistry, and engineering majors. Three classroom hours and two hours of laboratory per week.

1012 Basic Physics (4) [MI,MS]
Prerequisite: Phys 1011. A continuation of Phys 1011. A course specifically designed for students in health and life sciences covering the topics of electricity, magnetism, light and radiation. Will not fulfill the Physics 2112 requirement for physics, chemistry, and engineering majors. Three classroom hours and two hours of laboratory per week.

1050 Introduction to Physics (4)
Prerequisite: Math 1030. 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. A problem-solving course, recommended for science and engineering students who have no physics background or who desire additional preparation for Phys 2111. Three classroom hours and two hours of laboratory per week.

2111 Physics: Mechanics and Heat (5) [MS,MI]
Prerequisite: Math 1900 [Math 1900 may be taken concurrently]. Phys 1001, or Chem 1121, or equivalent is recommended. An introduction to the phenomena, concepts, and laws of mechanics and heat for physics majors and students in other departments. Three classroom hours, one hour discussion, and two hours of laboratory per week.

2112 Physics: Electricity, Magnetism, and Optics (5) [MI,MS]
Prerequisites: Phys 2111 and Math 2000 may be taken concurrently. 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

classroom hours, one hour discussion, and two hours of laboratory per week.

3200 Mathematical Methods of Theoretical Physics (3)
Prerequisites: Phys 2112 and Math 2000. Mathematical techniques specifically used in the study of mechanics, electricity, magnetism, and quantum physics are developed in the context of various physical problems. Course includes the topics of vector calculus, coordinate systems, the Laplace equation and its solutions, elementary Fourier analysis, and complex variables. Applications to electrostatics, mechanics, and fluid dynamics are emphasized. Three classroom hours per week.

3221 Mechanics (3)
Prerequisites: Phys 3200 and Math 2020. Math 2020 may be taken concurrently. Advanced course covering single and many particle dynamics, rigid-body dynamics, and oscillations. Variational principles and the Lagrangian and Hamiltonian formulations of mechanics are covered. Three classroom hours per week.

3223 Electricity and Magnetism (3)
Prerequisites: Phys 3200 and Math 2020. Math 2020 may be taken concurrently. Advanced course covering the rigorous development, from basic laws, of Maxwell's equations for electromagnetic fields along with applications of these equations. Topics covered are electrostatics and electrodynamics including currents, magnetic fields, motion of charged particles in fields and an introduction to electromagnetic waves. Three classroom hours per week.

3231 Introduction to Modern Physics I (3)
Prerequisite: Phys 2111, 2112, and Math 2020 may be taken concurrently and Phys 3200 strongly recommended. Photons and the wave nature of particles, wave mechanics, Schroedinger equation, with applications to atomic physics; and radiation; the physics of solids; elementary particles; special relativity; health physics. Three classroom hours per week.

3281 Directed Readings in Physics (1-5)
Prerequisite: Consent of instructor. An independent study of special topics in physics. A paper may be required on an approved topic. Topics must be substantially different. Hours arranged.

3390 Research (1-10)
Prerequisite: Consent of department. Independent research projects arranged between student and instructor. Hours arranged.

3410 Seminar (1)
Presentation of selected papers by students and faculty members at weekly meeting. May be taken twice for credit.

4306 Emergent Microscopy Practicals (1-3)
Prerequisite: of 3 credit hours) A critical web-based/laboratory Consent of Instructor (1.0 credit hour per module with a maximum 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.

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 classroom hours and two hours laboratory each week.

4308 Transmission Electron Microscopy (3)
Prerequisite: Phys 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 classroom hours and two hours laboratory per week.

4309 Scanning Probe Microscopy (3)
Prerequisite: Phys 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 classroom hours and two hours laboratory per week.

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 classroom hours or laboratory hours per week.

4311 Advanced Physics Laboratory I (3)
Prerequisites: Advanced standing with at least nine completed hours of physics at or above the 3000 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.

4323 Modern Optics (3)
Prerequisite: Phys 3223. A study of modern optics including diffraction theory, polarization, light propagation in solids, quantum optics, and coherence. Three classroom hours per week.

4325 Topics in Modern Applied Physics (3)
Prerequisites: Phys 4310 and Math 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 classroom hours per week.

4331 Introduction to Quantum Mechanics (3)
Prerequisites: Phys 3200 and 3231. Photons and the wave nature of particles; wave mechanics, the Schroedinger equation, operator and matrix formulations, and Dirac notation; applications to single particle systems, atomic physics, and spectroscopy. Three classroom hours per week.

4335 Atomic and Nuclear Physics (3)
Prerequisite: Phys 4331. Application of Schroedinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses, energy levels; alpha, beta, and gamma radiation, nuclear reactions, and models of the nucleus. Three classroom hours per week.

4341 Thermal and Statistical Physics (3)
Prerequisites: Math 2000 and Phys 3231. Introduction to statistical mechanics, classical thermodynamics and kinetic theory. Three classroom hours per week.

4343 Selected Topics in Physics I (3)
Prerequisites: Phys 3221, 3223, 3231, and 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 classroom hours per week.

4345 Nonlinear Dynamics and Stochastic Processes (3)
Prerequisites: Phys 3221 and 4341 and Consent of Instructor. Dynamical systems; theory of oscillations; introduction to bifurcation theory and chaos in dissipative systems with applications in physics and biology; introduction to stochastic processes with applications in physics, chemistry and biology; dynamics of nonlinear systems perturbed by noise; noise-induced phase transitions; linear and nonlinear time series analysis. Three classroom hours per week.

4350 Computational Physics (3)
Prerequisite: CS 1250, plus Phys 3221, 3223, and 3231. Computer analysis in physics; solutions of eigenvalue problems; coupled differential equations. Three classroom hours per week.

4351 Elementary Solid State Physics (3)
Prerequisite: Phys 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 classroom hours per week.

4353 Physics of Fluids (3)
Prerequisites: Phys 3221, 3223, and 4341, or consent of instructor. Dynamical theory of gases and liquids. Course covers the mathematical development of physical fluid dynamics with contemporary applications. Three classroom hours per week.

4354 Atmospheric Physics (3)
Prerequisite: Phys 4341 and 3221. The mathematical application of physical laws to atmospheric dynamics and physical meteorology. Application of mechanics, thermodynamics, optics, and radiation to atmospheric phenomena including the ionosphere.
Three classroom hours per week.

4356 Quantum Optics (3)
Prerequisites: Phys 3200 and 3231, and Math 2020. Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography. Three classroom hours per week.

4357 Subatomic Physics (3)
Prerequisites: Phys 3223, 3231 and 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 classroom hours per week.

4365 Introduction to Plasma Physics (3)
Prerequisite: Phys 3223 and 4341. A study of the nonlinear collective interactions of ions, electrons, and neutral molecules with each other and with electric and magnetic fields. Topics include plasma confinement and stability, electrical discharges and ionization, kinetic theory of plasma transport, plasma waves and radiation, and controlled fusion. Solutions of the Boltzmann, Fokker-Planck, and Vlasov equations are discussed and methods of advanced electromagnetism and statistical physics are utilized. Three classroom hours per week.

4370 Relativity and Cosmology (3)
Prerequisites: Phys 3221, 3223, and 3231. An introduction to Einstein's general theory of relativity. Topics will include special relativity in the formalism of Minkowski's four dimensional space-time, Principle of Equivalence, Riemannian geometry and tensor analysis, Einstein Field Equation and cosmology. Three classroom hours per week.

4381 Directed Readings in Physics (1-10)
Prerequisite: Consent of instructor. An independent study of special topics in physics for senior undergraduates or graduate students.

4387 Chemistry/Physics Teaching Intern Seminar (1)
Same as Chem 4837. Prerequisite: Chem 4802 or Phys 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 3290 One hour discussion per week.

4802 Curriculum and Methods of Teaching Physical Sciences (3)
Prerequisite: Tch Ed 3310 and a near-major in the subject matter. 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.

5402 Introduction to Mathematical Physics (3)
Prerequisites: Graduate standing in Physics or consent of instructor. A course covering mathematical techniques as applied in advanced theoretical physics including generalized vector spaces and their dual spaces, linear operators and functionals, generalized functions, spectral decomposition of operators, tensor analysis, and complex variables. Three classroom hours per week.

5403 Principles of Mathematical Physics (3)
Graduate standing in physics or consent of instructor. Boundary value problems; Strum-Liouville theory and orthogonal functions; Green's function techniques; and introduction to group theory with emphasis on representations of Lie Algebras. Three classroom hours per week.

6400 Special Problems (1-5)
Prerequisites: Must have a faculty mentor and approval of the Department Chair. A study of special topics in physics for graduate students.

6401 Special Topics (1-4)
Prerequisite: Consent of instructor. This course is designed to give the Department an opportunity to test a new course.

6404 Experimental Research Techniques (3)
Prerequisite: Graduate standing. Experiments in various fields of physics designed to stress techniques and experimental approach.

6405 Theoretical Physics I (3)
Prerequisites: Phys 3221 and 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.

6406 Theoretical Physics II (3)
Prerequisites: Phys 3231, 4341, or equivalent, and Physics 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.

6407 Modern Physics (3)
Prerequisite: Phys 4331. A study of some of the more important concepts of modern physics.

6409 Theoretical Mechanics I (3)
Prerequisite: Phys 3221. Classical mechanics, methods of Newton, Lagrange, and Hamilton, applied to motion of particles and rigid bodies, elasticity, and hydrodynamics.

6410 Seminar (variable hours)
Prerequisite: Approval of department chair. Discussion of current topics.

6411 Electrodynamics I (3)
Prerequisite: Phys 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.

6413 Statistical Mechanics (3)
Prerequisites: Phys 4331 and 4341. A study of statistical ensembles; Maxwell-Boltzmann, Fermi-Dirac, and Einstein-Bose distribution laws, application to some simple physical systems.

6415 Theoretical Mechanics II (3)
Prerequisite: Phys 6409. Transformation theory of mechanics, Lagrange and Poisson brackets, Hamilton-Jacobi theory, introduction to the classical theory of fields.

6417 Advanced Statistical Mechanics (3)
Prerequisite: Phys 6413. A continuation of Phys 6413. Further applications as to such topics as the imperfect gas, condensation and the critical region, magnetism, liquid state, and transport phenomena.

6423 Electrodynamics II (3)
Prerequisite: Phys 6411. A continuation of Phys 6411. Applications of time-dependent Maxwell's equations to such topics as plasmas, wave guides, cavities, radiation: fields of simple systems and multipoles. Relativity: covariant formulation of Maxwell's equations and conservation laws, fields of uniformly moving and accelerated charges.

6425 Plasma Physics (3)
Prerequisites: Phys 4341 and 6411. Fundamentals of kinetic theory, fluid equations, MHD equations, and applications; wave propagation, shielding effect, diffusion stability, and charged particle trajectories.

6435 Cloud Physics (3)
Prerequisites: Phys 3223 and 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.

6455 Theoretical Nuclear Physics (3)
Prerequisite: Phys 6461. A study of the basic properties of nuclei, nuclear scattering and forces, nuclear reactions, and models.

6461 Quantum Mechanics I (3)
Prerequisite: Phys 4331. A study of the Schroedinger wave equation, operators and matrices, perturbation theory, collision, and scattering problems.

6463 Quantum Mechanics II (3)
Prerequisite: Phys 6461. Continuation of Phys 6461 to include such topics as Pauli spin-operator theory, classification of atomic states, introduction to field quantization. Dirac electron theory.

6465 Quantum Mechanics III (3)
Prerequisites: Phys 6461 and 6463. Topics chosen from such fields as: relativistic quantum mechanics, potential scattering, formal collision theory, group theoretical methods in quantum mechanics, electrodynamics.

6467 Quantum Statistical Mechanics (3)
Prerequisites: Phys 6413 and 6463. Techniques for calculation of the partition function with examples drawn from interacting Fermi gas, interacting Bose gas, superconductors, and similar sources.

6471 Atomic and Molecular Structure (3)
Prerequisite: Phys 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.

6473 Atomic Collision Theory (3)
Prerequisite: Phys 6471 or 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.

6475 Molecular Spectroscopy (3)
Prerequisite: Phys 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.

6481 Physics of the Solid State (3)
Prerequisite: Phys 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.

6483 Selected Topics of the Solid State (3)
Prerequisite: Phys 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

6485 Advanced Quantum Mechanics (3)
Prerequisite: Phys 6465. Selected topics such as many-body problems field theory, S matrix theory and symmetries.

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.

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 Phys 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.

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
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
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
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 Provost 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
David C. Kimball, Associate Professor*
Ph.D., Ohio State University
Kenneth P. Thomas, Associate Professor*
Ph.D., University of Chicago
Brady Baybeck, Assistant Professor*
Ph.D., Washington University
Brian Fogarty, Assistant Professor
Ph.D., University of North Carolina at Chapel Hill
Farida Jalalzai, Assistant Professor
Ph.D., University of Buffalo
Nancy T. Kinney, Assistant Professor*
Ph.D., University of Colorado at Denver
Richard Middleton IV, Assistant Professor*
Ph.D., University of Missouri-Columbia

*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.

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. Scholarships are 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:

Poli Sci
1100, Introduction to American Politics
1500, Introduction to Comparative Politics
2000, Political Analysis
3950, Senior Seminar in Political Science

Majors are urged to take Pol Sci 1100, 1500, and 2000 as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent course work. Because the seminar topics in Pol Sci 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 courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level)
American Politics (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
Public Policy and Administration (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
Comparative Politics (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
Political Theory (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
International Relations (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
Methodology (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).

At least **18 hours** of political science course work must be at the 2000, 3000 or 4000 level, not including Pol Sci 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 2000 and 3000 or 4000 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 Pol Sci 3900, Special Readings, and (3) give special consideration to courses in normative political theory (such as Pol Sci 2620, Modern Political Thought) and research methods (such as Pol Sci 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 Pol Sci 1200, Foundations of Law: An Introduction to Legal Studies, and at least four of the following political science courses:

2260, Law and the Individual
2280, Judicial Politics and Policy
2290, Women and the Law
2650, American Political Thought
2900, Studies in Political Science (when appropriate)
3200, Constitutional Law
3210, Civil Liberties
3260, Judicial Decision-making
3290, Studies in Public Law
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)
4850, International Law

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:

1990, The City
2280, Judicial Politics and Policy
2300, State Politics
2320, African Americans and the Political System
2350, Introduction to Urban Politics
2380, Women in U.S. politics
2420, Introduction to Public Policy
2650, American Political Thought
2820, United States Foreign Policy
2900, Studies in Political Science (when appropriate)
3300, The American Presidency
3330, Introduction to Political Behavior
3331, Congressional Politics
3340, Politics and the Media
3350, Political Parties and Elections
3370, Mock Constitutional Convention
3390, Studies in American Politics
3480, Environmental Politics
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)

In addition, students may wish to choose other political science courses listed below under the public policy and administration program of study. Given the growing reality of international interdependence, students should not restrict their studies completely to American politics but should take some course work in comparative and international politics as well. Depending on their specific career interest, students may wish to round out their program with course work in other social science departments such as criminal justice, communications, economics, or social work.

Public Policy and Administration Designed for students interested in working inside or outside government, in a career requiring familiarity with how public policies are formulated and implemented. (Students alternatively may wish to consider the B.S. in public policy and administration degree offered by the political science department.) In addition to the core curriculum and

common requirements for all majors, students are advised to take Pol Sci 2420, Introduction to Public Policy, and at least four of the following political science courses:

2400, Public Administration
2820, United States Foreign Policy
2900, Studies in Political Science (when appropriate)
3400, Bureaucratic Politics
3410, The Politics of Business Regulation
3420, Public Personnel Management
3439, Studies in Policy Formation
3440, Public Budgeting
3450, Urban Administration
3460, The Politics of Poverty and Welfare
3480, Environmental Politics
3490, Studies in Public Administration
3570, Gender, Race, and Public Policy
3940, Public Affairs Internship (when appropriate)
3900, Special Readings (when appropriate)
4080, Program Evaluation
4470, Urban Planning and Politics
4510, Comparative Public Policy and Administration
4940, Leadership and Management in Nonprofit Organizations

Depending on career interests, students should add course work in American, comparative, or international politics. Students are encouraged to develop a policy concentration in a particular policy area, such as urban, labor, health, education, and business studies, with multidisciplinary course work taken in political science and other departments.

International and Comparative Studies Designed for students interested in international careers in government service (not only the U.S. State Department but also other federal government agencies), intergovernmental and non-governmental organizations, business, education, and other areas of employment. In addition to the core curriculum and common requirements for all political science majors, students are advised to take Pol Sci 1800, World Politics, or Pol Sci 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):

1600, Contemporary Political Ideologies
1820, Global Issues
1850, Global Ecology
2510, Comparative Politics of Europe
2520, Middle Eastern Politics
2530, Political Systems of South America
2540, Political Systems of Mexico, Central America, and the Caribbean
2550, East Asian Politics
2560, Russia and the New Republics
2580, African Politics
2800, Model United Nations
2820, United States Foreign Policy
2900, Studies in Political Science (when appropriate)
3570, Gender, Race, and Public Policy
3590, Studies in Comparative Politics
3690, The Marxist Heritage
3830, International Political Economy
3840, European International Relations
3850, International Organizations and Global Problem Solving
3860, Studies in War and Peace
3890, Studies in International Relations
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)
4510, Comparative Public Policy and Administration
4550, Democratization in Comparative Perspective
4850, International Law

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 public or the voluntary sector as well as in certain parts of the private sector.

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
1100, Introduction to American Politics
1500, Introduction to Comparative Politics
2000, Political Analysis
2400, Public Administration
2420, Introduction to Public Policy
3940, Public Affairs Internship
3950, Senior Seminar in Political Science
Econ 1001, Principles of Microeconomics
Econ 1002, Principles of Macroeconomics
CCJ 2220, Statistical Analysis in Criminology and Criminal Justice **or**
Sociology 3220, Sociological Statistics **or**
Econ 3100, Economic Statistics

In addition, students must provide a demonstration of computer proficiency through one of the following:

BA 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): Pol Sci 1100, 1500, 2400, 2000, 2420, 3940, and 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:
Pol Sci 3420, Public Personnel Management
Pol Sci 3440, Public Budgeting
BA 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 take 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:
1450, Introduction to Labor Studies
2280, Judicial Politics and Policy
2300, State Politics
2350, Introduction to Urban Politics
3300, The American Presidency
3331, Congressional Politics
3400, Bureaucratic Politics
3430, Union Leadership and Administration
3439, Studies in Policy Formation
3450, Urban Administration
3460, The Politics of Poverty and Welfare
3480, Environmental Politics
4470, Urban Planning and Politics
4510, Comparative Public Policy and Administration
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 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:
1100, Introduction to American Politics
2300, State Politics
2350, Introduction to Urban Politics
2650, American Political Thought
2280, Judicial Politics and Policy
3300, The American Presidency
3331, Congressional Politics
2320, African Americans and the Political System
3330, Introduction to Political Behavior
3340, Politics and the Media
3350, Political Parties and Elections
2380, Women in U.S. Politics
3410, The Politics of Business Regulation
2420, Introduction to Public Policy
2820, United States Foreign Policy
3940, Public Affairs Internship (when appropriate)
3390, Studies in American Politics
3370, Mock Constitutional Convention
3900, Special Readings (when appropriate)

Minor in Comparative Politics
Political Science 1500, Introduction to Comparative Politics, plus 12 hours from the following political science courses:
2500, Comparing Different Worlds
2510, Comparative Politics of Europe
2530, Political Systems of South America
2540, Political Systems of Mexico, Central America, and the Caribbean
2550, East Asian Politics

2560, Russia and the New Republics
2580, African Politics
3570, Gender, Race, and Public Policy
3590, Studies in Comparative Politics
3900, Special Readings (when appropriate)
4510, Comparative Public Policy Administration
4550, Democratization in Comparative Perspective

Minor in International Relations
Fifteen hours, chosen from the following political science courses:
1800, World Politics
1820, Global Issues
1850, Global Ecology
2520, Middle Eastern Politics
2820, United States Foreign Policy
3830, International Political Economy
3840, European International Relations
3850, International Organizations and Global Problem-Solving
3860, Studies in War and Peace
3890, Studies in International Relations
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)
4850, International Law

Minor in Political Theory
Fifteen hours, chosen from the following political science courses:
1600, Contemporary Political Ideologies
2610, Ancient and Medieval Political Thought
2620, Modern Political Thought
2650, American Political Thought
3680, Feminist Political Theory
3690, The Marxist Heritage
3690, Studies in Political Theory
3900, Special Readings (when appropriate)

Minor in Public Administration
Political Science 2400, Public Administration, plus 12 hours chosen from the following political science courses:
2420, Introduction to Public Policy
3400, Bureaucratic Politics
3410, Politics of Business Regulation
3420, Public Personnel Management
3439, Studies in Policy Formation
3440, Public Budgeting
3450, Urban Administration
3490, Studies in Public Administration
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)
4080, Program Evaluation
4470, Urban Planning and Politics
4510, Comparative Public Policy and Administration

Minor in Public Law
Fifteen hours, chosen from the following political science courses:
1200, Foundations of Law: An Introduction to Legal Studies
2260, Law and the Individual
2280, Judicial Politics and Policy
2290, Women and the Law
3200, Constitutional Law
3210, Civil Liberties
3260, Judicial Decision-Making
3290, Studies in Public Law
3900, Special Readings (when appropriate)
4850, International Law

Minor in Public Policy
Political Science 2420, Introduction to Public Policy, plus 12 hours chosen from the following political science courses:
2300, State Politics
2350, Introduction to Urban Politics
2400, Public Administration
3300, The American Presidency
3400, Bureaucratic Politics
3410, The Politics of Business Regulation
3440, Public Budgeting
3450, Urban Administration
3460, The Politics of Poverty and Welfare
3480, Environmental Politics
3570, Gender, Race, and Public Policy
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)
4080, Program Evaluation
4470, Urban Planning and Politics
4510, Comparative Public Policy and Administration

Minor in Urban Politics
Political Science 2350, Introduction to Urban Politics, plus 12 hours chosen from the following political science courses:
2320, African-Americans and the Political System
3450, Urban Administration
3460, The Politics of Poverty and Welfare
3900, Special Readings (when appropriate)
3940, Public Affairs Internship (when appropriate)
4470, Urban Planning and Politics

Minor in Women and Politics
PS 1550, Women and Politics in the Developing World and 12 hours from among the following political science courses:
PS 2290, Woman and the Law
PS 2380, Women in U.S. Politics
PS 3439, Studies in Policy Formation (consent of instructor required)
PS 3460, The Politics of Poverty and Welfare
PS 3570, Gender, Race, and Public Policy (Comparative)
PS 3590, Politics, Leadership and the Global Gender Gap
PS 3680, Feminist Political Theory
PS 3900, Special Readings (consent of instructor required)
PS 4940, Leadership and Management in Nonprofit Organizations (consent of instructor)

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

2+3 B.A. and M.A. in Political Science
The 2+3 Combined BA/MA program in Political Science provides an opportunity for students of recognized academic ability and educational maturity to complete the requirements for both degrees in 5 years of fulltime study.

The combined program requires a minimum of 140 credit hours of which at least 33 must be at the graduate level in political science. In qualifying for the BA, students must meet all University and College requirements. Students in the combined 2+3 who successfully complete the requirements for the MA degree will be awarded a BA degree simultaneously upon completion of at least 107 hours of undergraduate credit.

Student should apply to the Department for admission to the 2+3 combined degree program in Political Science during the semester they will complete 60 undergraduate credit hours. A cumulative grade point average of 3.0 or higher and three letters of recommendation from faculty are required. Students will be admitted to the 2+3 program under provisional status until they have completed 30 hours in that program with a grade point of 3.0 or higher. After completion of the provisional period, with the recommendation of the Graduate Director, students can be granted full admission into the 2+3 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, who have successfully completed all the regular requirements for the BA degree (120 hours) will be awarded their BA degree.

Undergraduate Requirements for Student in the 2+3 Program

A. The following must be completed prior to enrolling in the 2+3 program

1. **Students must take**
   PS 1100, Introduction to American Politics
   PS 1500, Introduction to Comparative Politics
2. **PLUS** two of the following:
   PS 1600, Contemporary Political Theory
   PS 1800, World Politics
   PS 2300, State Politics
   PS 2350, Introduction to Urban Politics
   PS 2400, Introduction to Public Administration
   PS 2650, American Political Thought

B. Undergraduate Requirements Within the 2+3 Program

1. Two of the following:
   PS 2280, Judicial Politics and Policy
   PS 2620, Modern Political Thought
   PS 3200, Constitutional Law
   PS 3210, Civil Liberties
   PS 3300, The American Presidency
   PS 3331, Congressional Politics
   PS 3350, Political Parties and Elections
   PS 3470, Gender, Race and Public Policy
   PS 3480, Environmental Politics

2. **PLUS** two of the following:
   PS 2510, Comparative Politics of Europe
   PS 2520, Middle Eastern Politics
   PS 2530, Political Systems of South America
   PS 2540, Political Systems of Mexico, Central American & the Caribbean
   PS 2580, African Politics
   PS 3690, The Marxist Heritage (Phil 269; ID 269)
   PS 3830, International Political Economy
   PS 3850, International Organizations and Global Problem Solving
   PS 4850, International Law

3. **Plus** one additional course from B-1 or B-2

C. Graduate Requirements
1. PS 6401, Introduction to Policy Research (3 credits)
2. **PLUS** 3 of the following (9 credits):
   PS 6420, Proseminar in Public Law
   PS 6430, Proseminar in American Politics
   PS 6440, Proseminar in Public Policy Administration
   PS 6450, Proseminar in Comparative Politics
   PS 6460, Proseminar in Political Theory
   PS 6470, Proseminar in Urban Politics
   PS 6480, Proseminar in International Relations
3. **PLUS** 5 additional graduate Political Science classes **(15 credits).**
   Students should select an emphasis in American Politics, Public Policy, Comparative Politics, Political Theory, or International Relations.
4. **PLUS** Exit Project or Internship or Thesis (6 credits)

Summary of Credits in Political Science:
BA: 27 hours (12 completed in lower division courses before admission to the 2+3 program)
MA: 33 hours at the graduate level

TOTAL: 60 hours in Political Science classes

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 6400 level and 12 hours must be in core courses in political science, including:

6401, Introduction to Policy Research
and three of the following political science courses:
6410, Introduction to Policy Analysis
6420, Proseminar in Public Law
6430, Proseminar in American Politics
6440, Proseminar in Public Policy Administration
6450, Proseminar in Comparative Politics
6460, Proseminar in Political Theory
6470, Proseminar in Urban Politics
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 (24 credit hours)
24 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, One University Blvd, 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: 1100, *1220, 1450, 1500, 1550, 1600, 1800, 1820, 1850, 1990, 2000, 2260, 2280, 2290, 2300, 2320, 2350, 2380, 2400, 2420, 2500, 2510, 2520*, 2530*, 2540*, 2550*, 2560, 2580*, 2610, 2620, 2650, 2800, 2820, 2900, 3200, 3210, 3220, 3260, 3290, 3300, 3331, 3330, 3340, 3350, 3370, 3390, 3400, 3410, 3420, 3430, 3439, 3440, 3450, 3460, 3470, 3480, 3490, 3570, 3590, 3680, 3690, 3695, 3830, 3840, 3850, 3860, 3890, 3900, 3950, 4060, 4080, 4180, 4460, 4470, 4510, 4550, 4850, 4900, 4940, 4960.

Course fulfills the Humanities or Social Sciences breadth of study requirement: *Course fulfills Cultural Diversity requirement.

The following courses satisfy the state requirement: Pol Sci 1100, 2260, 2280, 2290, 2300, 2320, 2350, 2380, 2400, 3210, 3300, 3330, 3331, 3350, 3370, 3400, 3450, 4470.

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.

1200 Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]
Same as CCJ 1200 and Interdisciplinary 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.

1450 Introduction to Labor Studies (3) [MI, SS]
Same as Interdisciplinary 1450. This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. institutional structure, collective bargaining strategies Topics include the role of workers in current and future times, unions' and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and the media.

1500 Introduction to Comparative Politics (3) [MI,V, SS, CD]
This course introduces students to western and non-western systems. It examines similarities and differences in the basic political ideologies, structures, economies, social institutions and governmental processes of developed and developing countries. It also provides frameworks for understanding the cultures of the world that are the basis for formal economic and political institutions. In addition, the course examines the role of non-state institutions, including trans-national ones, in shaping national policies. It uses case studies from Africa, Asia, Latin America, as well as Europe, to enhance student understanding of comparative politics.

1550 Women and Politics 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.

1600 Contemporary Political Ideologies (3)
An introduction to the major political ideologies of the world today. Emphasis is placed on democracy, feminism, Marxism, and nationalism.

1800 World Politics (3)
An introduction to the field of international relations, covering such topics as nationalism, power, foreign policy-making, diplomacy, war, arms control and disarmament, interdependence, the regulation of conflict, and other aspects of politics among nations.

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.

1850 Global Ecology (3) [V, SS]
Must be taken concurrently with Biol 1850 for three hours of biology credit and three hours of political science credit. A course team-taught by the Biology and Political Science departments, combining 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, energy use, use and conservation of natural resources, human population ecology 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.

1990 The City (3) [MI, V, SS]
Same as Sociol 1999. 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.

2000 Political Analysis (3)
An introduction to political analysis, emphasizing both the logic of inquiry and practical methods. Students learn about the construction and evaluation of theories that relate to real-world politics. They also have an opportunity for hands-on experience with qualitative and quantitative methods including graphics, descriptive statistics, cross-tabular and correlational analysis, hypothesis testing, and computer applications.

2260 Law and the Individual (3) [ST]
Same as CCJ 2226. Prerequisite: Pol Sci 1100, or 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.

2280 Judicial Politics and Policy (3) [ST]
Prerequisite: Pol Sci 1100 or 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.

2290 Women and the Law (3) [ST]
Legal position of women in the United States, emphasizing constitutional law, criminal law, domestic relations, and fair employment practice laws.

2300 State Politics (3) [ST]
Prerequisite: Pol Sci 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

2320 African Americans and the Political System (3) [ST]
Prerequisite: Pol Sci 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.

2350 Introduction to Urban Politics (3) [ST]
Prerequisite: Pol Sci 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

2380 Women in U.S. Politics (3) [ST]
Prerequisite: Pol Sci 1100 or consent of instructor. This course focuses on the relationship between gender and organized politics in the development of women's activism in politics, women United States. Topics to be addressed include the historical 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.

2400 Public Administration (3) [ST]
Prerequisite: Pol Sci 1100 or consent of instructor. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process.

2420 Introduction to Public Policy (3) [ST]
Prerequisite: Pol Sci 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.

2500 Comparing Different Worlds (3)
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.

2510 Comparative Politics of Europe (3)
Prerequisite: Pol Sci 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.

2520 Middle Eastern Politics (3) [CD]
Prerequisite: Pol Sci 1100, or 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.

2530 Political Systems of South America (3) [CD]
Prerequisite: Pol Sci 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.

2540 Political Systems of Mexico, Central America, and the Caribbean (3) [CD]
Prerequisite: Pol Sci 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.

2550 East Asian Politics (3) [CD]
An introduction to the study of the Chinese and Japanese political systems. Examination of the cultural context that has shaped the path of political development for both states.

2560 Russia and the New Republics (3)
Prerequisite: Pol Sci 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.

2580 African Politics (3) [CD]
Prerequisite: Pol Sci 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.

2610 Ancient and Medieval Political Thought (3)
Study of political thought from Plato to Machiavelli.

2620 Modern Political Thought (3)
Study of political thought from Machiavelli to the present.

2650 American Political Thought (3)
History of political thought in the United States from colonial times to the present.

2800 Model United Nations (1-3)
Prerequisite: Consent of instructor. Students in this course will be members of the UM-St. Louis delegation to the Midwest Model United Nations, a "mock UN" roleplaying experience involving various universities representing UN member countries. Students are expected to develop

knowledge about the UN and do research on a selected country and issue area (for example, terrorism or economic development). May be repeated up to a maximum of three credit hours.

2820 United States Foreign Policy (3)
Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Examination of the factors influencing the formation and the execution of United States foreign policy, with a focus on specific contemporary foreign policy issues.

2900 Studies in Political Science (3)
Selected topics in political science.

3090 American Government for the Secondary Classroom (3)
Prerequisites: Tch Ed 3310 & Pol Sci 1100, graduate standing or consent of instructor. Same as Sec Ed 3090. 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 Hist/Sec Ed 3257 or 3258 or Pol Sci/Sec. Ed. 3209 must be taken the same semester as Hist/Sec Ed 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.

3200 Constitutional Law (3) [ST]
Prerequisite: Pol Sci 1100, or 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.

3210 Civil Liberties (3) [ST]
Prerequisite: Pol Sci 1100, or 1200, or 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.

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.

3260 The Supreme Court (3) [ST]
Prerequisite: Pol Sci 1100, or Pol Sci 1200, or consent of instructor. An examination of the role, function and assertion of power by the U.S. Supreme Court in our constitutional democracy. Topics include historical overview of the Supreme Court, the process of selecting Supreme Court Justices, life in the Court, Supreme Court decision make, Supreme Court policymaking, implementation and impact of Court decisions and the role of the Supreme Court as a national policymaker. This course fulfills the state requirement.

3290 Studies in Public Law (3)
Prerequisite: Pol Sci 1100, or 1200, or consent of instructor. Selected topics in public law. May be repeated.

3300 The American Presidency (3) [ST]
Prerequisite: Pol Sci 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.

3330 Introduction to Political Behavior (3) [ST]
Prerequisite: Pol Sci 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.

3331 Congressional Politics (3) [ST]
Prerequisite: Pol Sci 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.

3340 Politics and the Media (3)
Prerequisite: Pol Sci 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.

3350 Political Parties and Elections (3) [ST]
Prerequisite: Pol Sci 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.

3370 Mock Constitutional Convention (3) [ST]
Prerequisite: Pol Sci 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.

3390 Studies in American Politics (3)
Prerequisite: Pol Sci 1100 or consent of instructor. Selected topics in American politics. May be repeated.

3400 Bureaucratic Politics (3) [ST]
Prerequisite: PolSci 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.

3410 Politics of Business Regulation (3)
Prerequisite: Pol Sci 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. Bureaucratic incentives and the role of the courts will be emphasized. Selected areas of regulation which may be covered include: equal employment policies, occupational health and safety policies, environmental policies, employment policies, and urban policies.

3420 Public Personnel Management (3)
Prerequisite: Pol Sci 1100, or 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.

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.

3439 Studies in Policy Formation (3)
Prerequisite: Consent of instructor. Selected topics in policy formation. May be repeated.

3440 Public Budgeting (3)
Prerequisite: Pol Sci 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.

3450 Urban Administration (3) [ST]
Prerequisite: Pol Sci 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.

3460 The Politics of Poverty and Welfare (3)
Prerequisite: Pol Sci 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.

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.

3480 Environmental Politics (3)
Prerequisite: Pol Sci 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.

3490 Studies in Public Administration (3)
Prerequisite: Pol Sci 1100, or 2400, or consent of instructor. Selected topics in public administration. May be repeated.

3570 Gender, Race and Public Policy (3)
Prerequisite: Pol Sci 1100, or 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).

3590 Politics, Leadership and the Global Gender Gap (3)
Prerequisites: Pol Sci 1500 or consent of instructor. Compares women's day-to-day leadership and participation patterns across a wide variety of political-economic contexts, emphasizing their performance as elective and administrative office holders. It examines the experiences of individual female leaders, long-term nomination and recruitment strategies, and the larger political opportunity structure awaiting women beyond the year 2000.

3595 Studies in Comparative Politics (3)
Prerequisite: Pol Sci 1500 or consent of instructor. Selected topics in comparative politics. May be repeated.

3680 Feminist Political Theory (3)
A study of the history of feminist political thought with an emphasis on contemporary concerns. Issues to be considered include the feminist theories of the state, gender and justice, and equality and difference.

3690 The Marxist Heritage (3)
Same as Phil 3369 and ID 3690. Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

3695 Studies in Political Theory (3)
Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Selected topics in political theory. May be repeated.

3830 International Political Economy (3)
Prerequisite: Introduction to international political economy. In particular, it will focus on the politics of international trade, finance, and investment. It will analyze the relationships between developed and developing countries, and it will assess the relative usefulness of alternative frameworks for studying international political economy.

3840 European International Relations (3)
Prerequisite: Pol Sci 1100, or 1500 or consent of instructor. European international relations since World War II. Emphasis upon developments from the Cold War to Détente emphasizing such concepts as containment, Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security.

3850 International Organizations and Global Problem Solving (3)
Prerequisite: Pol Sci 1100 or 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 problem areas as economic development, management of resources, and control of violence across national boundaries.

3860 Studies in War and Peace (3)
Prerequisites: Junior standing and Pol Sci 1100, or 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.

3890 Studies in International Relations (3)
Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Selected topics in international relations. May be repeated.

3900 Special Readings (1-10)
Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

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.

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.

4040 Survey Research Practicum (3)
Same as Econ 4140 and Sociol 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.

4060 Theory of Decisions and Games (3)
Prerequisite: Six hours of Philosophy and junior standing, Pol Sci 6401 (or the equivalent) or consent of instructor. Same as Phil 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 Dilemna, 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.

4080 Program Evaluation (3)
Prerequisites: Pol Sci 1100, or 2400, and one of the following: BA 3300, Sociol 3200, CCJ 2220, or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

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.

4460 Urban Planning and Politics (3) [ST]
Prerequisite: Pol Sci 1100, or 2400, or consent of instructor. Examination of the political processes of urban areas as they relate to the planning of services and facilities.

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 concerning the relative merits of using technological capabilities as compared with health risks in setting environmental standards. Discusses the need for environmental regulation to protect societal resources.

4510 Comparative Public Policy and Administration (3)
Prerequisite: Pol Sci 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.

4550 Democratization in Comparative Perspective (3)
Prerequisite: Pol Sci 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.

4850 International Law (3)
Prerequisite: Pol Sci 1100, or 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.

4900 Topics in Political Science (3)
Prerequisites: Pol Sci 1100 or consent of Instructor. Selected topics in political science.

4911 Management Issues in Nonprofit Organizations: Staff Management Issues (1)
Prerequisite: Junior Standing. Same as SW 4911 and PPA 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.

4912 Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)
Prerequisite: Junior Standing. Same as SW 4912 and PPA 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.

4913 Management Issues in Nonprofit Organizations: Financial Issues (1)
Prerequisite: Junior Standing. Same as SW 4913 and PPA 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.

4940 Leadership and Management in Nonprofit Organizations (3)
Same as PPA 4940, SW 4940, and Sociol 4940. Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and sector, the role of volunteerism in a democratic management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent society, and the role and scope of philanthropy. Topics in include the dynamics, functions and membership voluntary organization management and leadership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

4960 American Philanthropy and Nonprofit Resources Development (3)
Prerequisite: Junior standing or consent of instructor. Same as SW 4960 and PPA4960. 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.

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.

6401 Introduction to Policy Research (3)
Same as PPA 6010. Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

6402 Intermediate Techniques in Policy Research (3)
Prerequisites: Graduate standing and Pol Sci 6401. Elementary distribution theory, statistical inference, and an introduction to multiple regression. Emphasis on practical applications.

6403 Advanced Techniques in Policy Research (3)
Prerequisites: Graduate standing and Pol Sci 6402. Selected topics in policy research emphasizing forecasting, modeling, and estimation.

6404 Multi-Method Research Design (3)
Prerequisites: Pol Sci 6403 or consent of instructor. Develops policy research skills that combine qualitative and quantitative social science tools and applies an appropriate mix of these tools to specific policy problems. Topics include alternative approaches to causal analysis, levels of analysis, triangulation from a variety of qualitative and quantitative research techniques, building contextual effects into multiple research projects, techniques for assessing alternative program theories and clarifying implicit assumptions, and meta-analysis of secondary data sources.

6405 Directed Readings in Research Methods (1-10)
Independent study through readings, reports, research projects, and conferences.

6406 Survey Research Methods (3)
Prerequisites: An introductory statistics course (such as Soc. 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.

6410 Introduction to Policy Analysis (3)
Same as PPA 6000. Systematic development of a critical/analytic base for dealing with public policy.

6411 Seminar in Policy Analysis (3)
Prerequisite: Pol Sci 6410. Evaluation and criticism of contemporary public policies in selected areas.

6414 Topics in Public Policy Analysis (3)
Intensive analysis of a specific public policy area such as housing, budgeting, integration, planning, metropolitan reorganization. Course may be repeated.

6415 Directed Readings and Research in Public Policy (1-10)
Same as PPA 6150. Prerequisite: Consent of Instructor. Independent study through readings, reports, research projects, and conferences. May be repeated for credit, provided the subject matter is different.

6416 Family Policy (3)
Prerequisites: SW 5200 or equivalent or consent of instructor and graduate standing. Same as SW 5200 and Sociol 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 Intended and protection, and child and youth development. unintended consequences of existing policies on the family will be examined as well as future policy directions.

6417 Income and Pension Policy for the Aged (3)
Prerequisite: Graduate standing or consent of instructor. Same as Ger 6417 and PPA 6170 and SW 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.

6418 Social and Economic Development Policy (3)
Prerequisites: SW 5200 or equivalent or consent of instructor and graduate standing. Same as SW 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.

6419 Cases in Public Policy Analysis (3)
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.

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).

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.

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.

6425 Directed Readings and Research in Public Law (1-10)
Independent study through readings, reports, research projects, and conferences.

6430 Proseminar in American Politics (3)
Study of individual and group political behavior, including socialization, participation, consensus formation, representation, and legislative and judicial behavior.

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.

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.

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 an 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.

6435 Directed Readings and Research in American Politics (1-10)
Independent study through readings, reports, research projects, and conferences.

6440 Proseminar in Public Administration (3)
Same as PPA 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.

6441 Seminar in Public Administration (3)
Research problems and design in public administration. May be repeated for credit when the subject matter is different

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.

6443 Health Care Policy (3)
Prerequisite: Graduate standing or consent of instructor. Same as PPA 6430 Ger 6443 and SW 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.

6444 Seminar in Public Policy and Aging (3)
Same as PPA 6444 and Ger 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.

6445 Directed Readings and Research in Public Administration (1-10)
Independent study through readings, reports, research projects, and conferences.

6446 Selected Topics in Health Care Policy (3)
Same as PPA 6460 and Sociol 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.

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.

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.

6449 Human Resources in the Public Sector (3)
Prerequisite: PPA 6600 or consent of instructor. Same as SW 6449 and PPA 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.

6450 Proseminar in Comparative Politics (3)
Classification and topology of political systems; structural-functional analysis; political culture, ideology, affiliation and participation; decision-making processes; political roles; organization of authority.

6451 Seminar in Comparative Politics (3)
Research problems and design in comparative politics. May be repeated for credit when the subject matter is different.

6452 Public Policy of Conservation and Sustainable Development (3)
Same as Biol 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.

6455 Directed Readings and Research in Comparative Politics (1-10)
Independent study through readings, reports, research projects, and conferences.

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.

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.

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.

6460 Proseminar in Political Theory (3)
Study of concepts and problems in normative political theory.

6461 Seminar in Political Theory (3)
Research problems and design in political theory. May be repeated for credit when the subject matter is different.

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.

6465 Directed Readings and Research in Political Theory (1-10)
Independent study through readings, reports, research projects, and conferences.

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.

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.

6475 Directed Readings and Research in Urban Politics (1-10)
Independent study through readings, reports, and conferences.

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.

6481 Seminar in International Relations (3)
Research problems and design in international politics. May be repeated for credit when the subject matter is different.

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.

6485 Directed Readings and Research in International Relations (1-10)
Independent study through readings, reports, research projects, and conferences.

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.

6490 Strategic and Program Planning for Nonprofit Organizations (3)
Prerequisites: Graduate standing or consent of instructor. Same as PPA 6550 and SW 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.

6494 Thesis Research (1-10)
Arranged.

6495 Internship (1-6)
Independent study involving work with an appropriate public or private agency.

7499 Dissertation Research (1-10)
Arranged

Department of Psychology

Faculty

Robert J. Calsyn, Professor*, Chairperson
Ph.D., Northwestern University
Gary K. Burger, Professor* Emeritus
Ph.D., Loyola University
James A. Breaugh, Professor*+
Ph.D., Ohio State 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
Miles L. Patterson, Professor*,
Ph.D., Northwestern University
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
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
Steven E. Bruce, Associate Professor,
Director, Center for Trauma Recovery
Ph.D., Virginia Commonwealth University
Michael G. Griffin, Associate Professor*
Ph.D., University of Missouri-St. Louis
Therese M. Macan, Associate Professor*
Director, Doctoral Program in Industrial/ Organizational Psychology
Ph.D., Rice University
Paul W. Paese, Associate Professor*,
Ph.D., University of Illinois
Ann M. Steffen, Associate Professor*,
Ph.D., Indiana University
Mark E. Tubbs, Associate Professor*,
Ph.D., University of Houston
Terri D. Conley, Assistant Professor,
Ph.D., University of California – Los Angeles
Thomas D. Fletcher, Assistant Professor
Ph.D., Old Dominion University
Donald D. Lisenby, Assistant Professor Emeritus
Ph.D., Washington University
Michael J. Stevens, Assistant Professor+
Ph.D., Purdue University
Kamila S. White, Assistant Professor
Ph.D., Virginia Commonwealth University
Robert N. Harris, Clinical Professor*
Ph.D., University of Kansas
Tara Galovski, Research Assistant Professor
Ph.D., University of Albany-State University of New York
Jennifer Siciliani, Affiliate Assistant Professor*,
Director, Undergraduate Advising
Ph.D., University of Tennessee-Knoxville
Dyan W. Harper, Adjunct Professor,
Ph.D., Northern Illinois University
Gary A. Morse, Adjunct Professor
Ph.D., University of Missouri-St. Louis
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
Lee Konzak, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis
Sandra K. Seigel, Adjunct Assistant Professor
Ph.D., Saint Louis University
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
\# Primary appointment in Kathy J. Weinman Children's Advocacy Centre

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 adviser 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 animal and human experimental laboratories and a wide range of research equipment, including portable videotaping systems.

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 (110 Stadler Hall, 516-4561) 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 31, 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 1003, General Psychology
2201, Psychological Statistics
2219, Research Methods

Note: Students must fulfill the university's mathematical skills requirement before taking Psy 2201, Psy Statistics. Psy 2201 is a prerequisite for Psy 2219.

In addition to the core curriculum, at least 21 additional credit hours in Psychology must be taken. At least three of these courses totaling a minimum of 9 hours must be at the 3000 or 4000 level. Multiple enrollments in Psychology 3390, Directed Studies, count as no more than one 3000 or 4000 level course. No more than 6 hours of independent study courses Psy 3295, Selected Projects in Field Placement, and Psy 3390, Directed Studies may be counted toward the 31-hour minimum needed for graduation.

Graduate School Preparation
In addition to the core curriculum, students planning to pursue doctoral studies in Psychology are advised to take Psych 4361, 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:

2160, Social Psychology
2211, Physiological Psychology
2212, Principles of Learning
2216, Personality Theory
2245, Abnormal Psychology
2270, Developmental Psychology: Infancy, Childhood & Adolescence
2272, Developmental Psychology: Adulthood and Aging

Students are also encouraged to become involved in independent research Psych 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 3000 or 4000 level:
2216, Personality Theory
2270, Developmental Psychology: Infancy, Childhood & Adolescence
2272, Developmental Psychology: Adulthood and Aging
3295, Selected Projects in Field Placement
3340, Clinical Problems of Childhood
4305, Cognitive Development
4306, Social Development
4349, Human Learning and Memory
4356, Thinking and Cognition
4373, Psychology of Aging
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 3000 or 4000 level:

2160, Social Psychology
2161, Helping Relationships
2225, Behavior Modification
2232, Psychology of Victims
2245, Abnormal Psychology
2256, Environmental Psychology
3295, Selected Projects in Field Placement
3340, Clinical Problems of Childhood

3346, Introduction to Clinical Psychology
4235, Community Psychology
4365, Psychological Tests and Measurements
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.

2160, Social Psychology
3317, Social Psychology of Conflict and Negotation
3318, Industrial and Organizational Psychology
3320, Personnel Assessment
4365, Psychological Tests and Measurement

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 3600, Management as a Behavioral Science I
BA 3611, Management as a Behavioral Science II
BA 3622, Industrial and Labor Relations
BA 3624, Employee Training and Development
Sociology 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 3000 or 4000 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. Most 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:

7421, Quantitative Methods I
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: Clinical, Experimental, and Industrial/Organizational. 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.

Certificate Programs

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
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 undergraduate 3000 or 4000 level. The courses meeting the requirements for the certificate include:
Criminology 3325, Gender, Crime, and Justice
Criminology 4350, Victimology
Criminology 6432, Criminal Law
Criminology 6443, Violent Crime
Criminology 6446, Sex Crimes
Criminology 6448, Victimization
Psychology 7447, Trauma and Recovery
Psychology 7408, Psychological Perspectives on Death and Dying
Psychology 4398/Social Work 4398, Child Maltreatment: A Multidisciplinary Approach
Social Work 3601, Child Abuse and Neglect
Psychology 4399/Social Work 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 health care. For more career information see an adviser in the Undergraduate Psychology Office (Room 110 Stadler). To function specifically as a psychologist, a graduate degree is required. Students with such an interest should plan for this additional training. For additional information, visit the American Psychological Association web site (www.apa.org/students).

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 and in that Bulletin: 1003, 1268, 2102, 2140, 2160, 2161, 2200, 2201, 2211, 2212, 2216, 2219, 2222, 2225, 2230, 2232, 2245, 2256, 2270, 2272, 3295, 3302, 3316, 3317, 3318, 3320, 3340, 3345, 3346, 4235, 4300, 4305, 4306, 4307, 4308, 4310, 4311, 4312, 4314, 4330, 4349, 4356, 4357, 4361, 4365, 4373, 4374, 4375, 4376, 4380, 4392, 4398.

1003 General Psychology (3) [SS]
A broad introductory survey of the general principles of human behavior.

1268 Human Growth and Behavior (3) [SS]
Prerequisite: Psych 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 Psych 2270 and/or Psych 2272 instead of this course.

2102 Introduction to Women's Studies: Women, Gender, and Diversity (3)
(Same as WGS 2102 and Sociol 2102). This core course in required for all Women's and Gender studies Certificate earners. This class introduces students to the cultural, political, and Historical issues of concern to women and familiarizes students with the diversity of women's experiences across lines of social class, race, sexuality, and culture, It excludes representations and women's contributions to multiple disciplines including anthropology, history, philosophy, politics, psychology, and sociology.

2140 Female Sexuality (3)
Prerequisites: Psych 1003, or Biol 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.

2160 Social Psychology (3)
Same as Sociol 2160. Prerequisite: Psych 1003 or Sociol 1010. Study of interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

2161 Helping Relationships (3)
Prerequisites: Psych 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.

2200 Drugs and Behavior (3)
Prerequisites: Psych 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.

2201 Psychological Statistics (4)
(With Laboratory) Prerequisites: Psych 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.

2211 Introduction to Biological Psychology (3)
Prerequisites: Psych 1003, Biol 1012 and 3 additional hours in Psychology or Biol. A fundamental course designed to introduce psychology students to the new findings for the biological bases of human behavior.

2212 Principles of Learning (3)
Prerequisite: Psych 1003. A consideration of critical findings in learning.

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.

2219 Research Methods (3)
(With laboratory.) Prerequisite: Psych 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.

2222 Group Processes in Organizations (3)
Prerequisite: Psych 1003or BA 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.

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.

2230 Psychology of Women (3)
Prerequisite: Psych 1003. Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women.

2232 Psychology of Victims (3)
Prerequisite: Psych 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.

2245 Abnormal Psychology (3)
Prerequisite: Psych 1003. Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders.

2256 Environmental Psychology (3)
Prerequisite: Psych 2160 or Sociol 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).

2270 Developmental Psychology: Infancy, Childhood & Adolescence (3)
Prerequisite: Psych 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.

2272 Developmental Psychology: Adulthood and Aging (3)
Same as Ger 4280. Prerequisite: Psych 1003. Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

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.

3302 Computers in Psychology (3)
Prerequisites: Nine hours of psychology including Psych 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.

3316 Fundamentals of Leadership (3)
Prerequisites: 9 hours of Psychology or consent of instructor. This course addresses concepts and methods for developing leadership skills in work and everyday settings. Contemporary approaches to leadership development are reviewed in relation to psychological and organizational theory. This course is designed to be relevant to the wide range of leadership opportunities that arise in work and daily life. Experiential exercises are used to help students discover and develop new leadership skills.

3317 Social Psychology of Conflict and Negotiation (3)
Same as Soiol 3317. Prerequisite: nine hours of psychology or nine (9) hours of sociology, including Psych 2160 or Soc 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.

3318 Industrial and Organizational Psychology (3)
Same as BA 3623. Prerequisites: Psych 2201 or BA 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.

3320 Personnel Assessment (3)
Prerequisite: Psych 3318 or BA 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.

3340 Clinical Problems of Childhood (3)
Prerequisites: A total of twelve hours of psychology including Psych 1003 and Psych 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.

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.

3346 Introduction to Clinical Psychology (3)
Prerequisites: Nine hours of Psychology, including Psych 2216 or Psych 2245. A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment.

3390 Directed Studies (1-5)
Prerequisite: Consent of instructor. Directed reading and research. May be repeated for a maximum total of ten hours.

4235 Community Psychology (3)
Prerequisite: Psych 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

4300 Neuropharmacology and Behavior (3)
Prerequisites: Psych 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.

4301 Advanced Statistics and Experimental Design (3)
Prerequisites: Twelve hours of psychology, including Psych 2201. Statistical methods which are particularly useful in psychological research and the design of experiments appropriate to these methods.

4305 Cognitive Development (3)
Prerequisites: Junior standing and Psych 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 naïve theories, schooling, and various definitions and measures of intelligence.

4306 Social Development (3)
Prerequisites: Junior standing and Psych 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.

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.

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.

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.

4311 Psychology of Nonverbal Behavior (3)
Prerequisite: Psych 2160 or Sociol 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.

4312 Social Cognition (3)
Prerequisites: Psych 2160 or Soc 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.

4314 Behavioral Neuroscience (3)
Prerequisites: 9 hours of Psych and/or Biology: Psych 2211 is recommended but not required. A neuroscience course focusing on behavioral outcomes of brain function and dysfunction. Emphasis will be on modern research methods with animal models and humans. Topics discussed will include the classic findings in the field, but the emphasis will be on recent findings from human neuropsychology, neuroimaging, cognitive neuroscience, neuropharmacology and neuroendocrinology.

4330 Hormones, the Brain and Behavior (3)
Prerequisites: 9 hours of Psychology or Biology, including at least one of the following: either Psych. 3200, Psych. 3211, Psych. 4330 or Psych 4315 or permission of instructor. Can be taken for graduate credit. It is now clear that the endocrine system influences a notable range of reproductive and non-reproductive behaviors including mood, stress responses, cognition, memory, violence, attachment, aging, weight control and athletic prowess. Emphasis of the class is on hormonal contribution to reproductive and non-reproductive behaviors and sex steroids influences on the brain from prenatal life to old age as well as their contribution to gender behavioral differences.

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.

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.

4357 Psychology of Learning (3)
(With laboratory.) Prerequisite: Psych 2219. Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected problems.

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.

4365 Psychological Tests and Measurements (3)
Prerequisites: Psych 2201 and Psych 2219, or consent of instructor. Survey of psychological tests and principles of reliability, validity, test construction, and test evaluation..

4373 Psychology of Aging (3)
Same as Ger 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.

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.

4375 The Social Psychology of Disabilities (3)
Prerequisite: Sociol 2160 or Psych 2160 or consent of instructor. Same as Sociol 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.

4376 Mental Health and Aging (3)
Prerequisites: 9 hours of psychology, graduate standing, or consent of instructor. (Same as Ger 4376 and SW 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.

4380 Psychology of Death, Dying, and End-of-Life Concerns (3)
Prerequisite: Nine hours of psychology. Same as Ger 4380. This course will address the psychological aspects of and current research on, a variety of end-of-life issues, including death attitudes, funeral practices, ethics, grief theory, family communication practices, health care system approaches.

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.

4398 Child Maltreatment: A Multidisciplinary Approach (3)
Same as SW 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.

4399 Seminar: Child Sexual Abuse (1)
Same as SW 4399. Provides intensive study in interviewing, legal issues, assessment, medial issues, and therapeutic intervention in cases of child sexual abuse.

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.

5461 Seminar: Learning (3)
A critical examination of contemporary problems in learning.

5465 Seminar: Physiological Psychology (3)
A critical examination of contemporary problems in physiological psychology.

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

5475 Introduction to Evaluation Research Methods (3)
Same as Sociol 5475, PPA 6750, and CCJ 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.

5610 Mechanisms of Aging I: The Aging Body (1)
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 Prerequisites: Graduate standing and Biol 1102 or equivalent. (Same as SW 5610 and Ger 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 and how these changes affect behavior.

5611 Mechanisms of Aging II: The Aging Brain (1)
Prerequisites: Ger 5610 or SW 5610 or Psych 5610 or equivalent or consent of instructor. (Same as SW 5611 and Ger 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 and how these systems impact behavior.

5612 Mechanisms of Aging III: Diseases of Aging (1)
Prerequisites: Ger 5610 and Ger 5611 or SW 5610 and 5611 or Psych 5610 and Psych 5611 or equivalent or consent of instructor. (Same as SW 5612 and Ger 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, mind, and behavior.

6441 Aging and Health Behavior (3)
Prerequisites: Graduate standing. (Same as Ger 6441). 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.

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.

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.

6466 Seminar: Developmental Psychology (3)
A critical examination of contemporary problems in developmental psychology.

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.

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.

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.

7406 Introduction to Clinical Assessment II (3)
Prerequisite: Psych 7404. Theory and techniques of personality assessment with emphasis on projective personality tests.

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.

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.

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.

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.

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.

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.

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.

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.

7431 Clinical Supervision (1-3)
Prerequisite: Admission to Clinical Psychology program. Supervised experience in clinical practice. May be repeated six times for credit.

7432 Mental Health Administration and Professional Issues I (3)
Prerequisites: Admittance to Clinical Psychology Program. Review of current issues in professional psychology.

7434 Seminar: Introduction to Psychotherapy (3)
Prerequisite: Admittance to Clinical Psychology program and Psych 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.

7439 Summer Supervision (1)
Prerequisite: Psych 7431. Supervision experience in clinical practice at all graduate year levels during the summer months. Can be repeated for credit.

7440 Principles of Family Therapy (3)
Prerequisite: Psych 7434. Survey of research and theory underlying models of family interaction. Practical application of specific techniques to the family system is emphasized.

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.

7442 Seminar: Cognitive and Behavior Therapy (3)
Prerequisites: Psych. 7434. The practice of behavior therapy. Students will learn to implement behavioral assessment and therapy strategies in clinical settings.

7447 Trauma and Recovery (3)
Prerequisites: Graduate Trauma Studies Certificate. A comprehensive seminar on the psychological effects associated with exposure to potentially traumatic events. The course will include information on the history of trauma studies; definitions of stressful and traumatic events; common responses to these events; theoretical models for conceptualizing traumatic responses; information on specific types of traumatic events; and issues in treatment.

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.

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.

7451 Clinical Internship II (1)
Prerequisites: Psych 7450 and consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

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.

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.

7457 Seminar: Special Topics in Industrial Psychology (3)
A seminar of selected issues and methods in personnel psychology.

7458 Seminar: Special Topics in Organizational Psychology (3)
A seminar of selected issues and methods in organizational psychology.

7459 Practicum in Industrial/Organizational Psychology (1-4)
Supervised experience in personnel or human resource management.

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.

7472 Special Topics in Psychology (3)
A seminar of selected issues and methods in psychology.

7474 Clinical Research in Applied Settings (3)
Prerequisite: Psych 7421 and 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.

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.

7477 Principles of Child Psychotherapy (3)
Prerequisites: Psych 7434 and 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.

7478 Directed Research in Industrial/Organizational Psychology (1-4)
Independent study of an issue in industrial/ organizational psychology through the application of research techniques.

7479 Directed Readings in Industrial/Organizational Psychology (1-4)
Independent literature review of a topic in industrial/ organizational psychology.

7480 Research Methods in Clinical Psychology (3)
Prerequisite: Psych 7421 or equivalent. An overview of research methods that are appropriate for clinical and other nonlaboratory settings.

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.

7483 Directed Research (1-10)

7484 Directed Readings (1-10)

7485 Research Team I (2)
Prerequisite: Admittance to doctoral program in Clinical Psychology. Group supervision of beginning research leading to the Independent Research Project.

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.

7491 M.A. Thesis Research (1-10)

7492 Ph.D. Thesis Research (1-10)

7494 Integrative Research Seminar in Gerontology (3)
Same as Ger 6494, Prerequisite: A graduate level research methods course (e.g., PPA 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.

School of Social Work

Faculty

Lois Pierce, Professor*, Director
Ph.D., Washington University
Uma Segal, Professor*
Ph.D., Washington University
Margaret Sherraden, Professor*
Ph.D., Washington University
Norman Flax, Associate Professor Emeritus*
Ph.D., Saint Louis University
Joan Hashimi, Associate Professor Emeritus*,
Ph.D., Washington University
Sharon Johnson, Associate Professor
Ph.D., Washington University
Baoroug Guo, Assistant Professor
Ph.D., Washington University
Lia Nower, Assistant Professor
Ph.D., Washington University
Joseph Pickard, Assistant Professor
Ph.D., Washington University
Shirley Porterfield, Assistant Professor
Ph.D., University of Wisconsin - Madison
Patricia Saleeby, Assistant Professor
Ph.D., Washington University
Lori Curtis, Lecturer
M.S.W., Washington University
Patricia Rosenthal, Lecturer
M.S.W., Washington University
Beverly Sporleder, Lecturer
M.S.W., Washington University
Linda Vawter, Lecturer
M.S.W., Washington University
Linda Wells-Glorer
M.S.W., Washington University

* members of Graduate Faculty

The School of Social Work faculty is committed to excellence in teaching and scholarly research in a wide range of specialties. These include child welfare, gerontology, community organization, addictions, social service policy, and international social work. Faculty also serve on the executive and advisory boards of many area social service agencies.

General Information

Degrees and Areas of Concentration
The School of Social Work offers courses leading to a bachelor of social work (B.S.W.), a master of social work (M.S.W.), and a minor in social work. The B.S.W. and the M.S.W. programs are fully accredited 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.

Students must apply for admission into the B.S.W. and the M.S.W. programs. Undergraduate social work majors and Master's students should obtain a copy of the *Student Handbook* (available on the social work department's Web page http://www.umsl.edu/~socialwk). BSW students must meet with 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 4800 and Soc Wk 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 concurrently with SW 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.
Transcripts 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 1100, 1200, and 1201 or their equivalents or completion of an A.A. in Human Services.
Satisfactory completion of all courses listed as prerequisites for Soc Wk 3100, 3150, and 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:
1100, Social Work and Social Problems
1200, Social Welfare as a Social Institution

1201, Social Welfare as a Social Institution Laboratory
3100, Introduction to Interventive Strategies for Social Work Practices
3150, Human Behavior in the Social Environment
3200, Interventive Strategies for Social Work with Individuals, Families, and Groups
3300, Interventive Strategies for Social Work with Organizations and Communities
3400, Social Issues and Social Policy Development
4100, Diversity and Social Justice
4800, and 4850, Supervised Field Experience in Social Work I and II
4801 and 4851, Integrative Field Experience Seminar I and II

A minimum of 37 hours or a maximum of 50 hours must 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:
1102, Human Biology
1131, Human Physiology and Anatomy I
1141, Human Physiology and Anatomy II
1202, Environmental Biology
Econ 1000, Introduction to the American Economy
Pol Sci 1100, Introduction to American Politics
Psych 1003, General Psychology
Sociology:
1010, Introduction to Sociology
2160, Social Psychology
3220, Sociological Statistics, 2201, Psych Stats, 2220, CCJ Stats
Either:
Social Work 3500, Research Design in Social Work
Sociology 3230, Research Methods **or** 2219 Psychology, 2210 Criminology

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 2000 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 schools of social work.

Requirements for the Minor in Social Work
Candidates must complete the following **social work** courses:
1100, Social Work and Social Problems
1200, Social Welfare as a Social Institution
3100, Interventive Strategies in Social Work Practice
3400, Social Issues and Social Policy Development
and one additional social work course at the 3000 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 School 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 and a course in statistics.
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 at least 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:
Three letters of reference. – One from a professor in the undergraduate field of study, one from a work or volunteer supervisor or other professional reference.
A completed application to the UM-St. Louis Graduate School and a completed M.S.W. supplemental application
Three written essays.
Official transcripts from all colleges and university attended.
Applicable fees.

Application Deadline
The deadline for application to the MSW program is January 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. Admission 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 4000 or 5000 level and 45 must be in social work or crosslisted with social work, including the following foundation courses:

4100, Diversity and Social Justice
4200, Foundations of Human Behavior in the Social Environment
4250, Social Work and Human Service Organizations
4400, Research Methods and Analysis I
5100, Generalist Social Work Practice
5200, Social Policy and Social Services
5300, Community Practice and Social Change
5400, Research Methods and Analysis II
5801, Graduate Field Practicum Seminar
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
Gerontology
To remain in good standing, students must maintain a cumulative GPA of 3.0 or better.
The field practicum is an integral part of the concentration year. Students will complete 300 hours (two days of full-time work each week) of M.S.W. supervised practice in an agency during the Winter semester of the foundation year, and 660 hours total (three days of full-time work per week) in the concentration year.
A student must receive a grade of B or better in the first-year field instruction course in order to be eligible to enter the second year field practicum.

Part Time Status
Students who enter the program as part-time students complete the foundation year in two years and the concentration course work in an additional two years. All students must complete the M.S.W. in four years.

Career Outlook
The bachelor of social work program prepares persons for entry-level employment in social welfare agencies, schools, hospitals, correctional institutions, social action and community organizations, and day care, geriatric, or rehabilitation and residential centers. The master of social work program prepares professionals for advanced social work practice with individuals, families, groups, organizations, and communities. Individuals currently working in social welfare can develop skills and increase employment and job advancement opportunities with the B.S.W. and M.S.W. degrees.

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 social work courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:
1100, 1200, 3100, 3150, 3400, 3602, 3900, 4100, 4601, 4900, 4950, 5600

1100 Social Work and Social Problems (3)
Prerequisite: Soc 1010 or Psych 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.

1200 Social Welfare as a Social Institution (3)
Prerequisite: Soc Wk 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.

1201 Social Welfare as a Social Institution Laboratory (1)
Prerequisites: Simultaneous with Soc Wk 1200. The lab session will be used for field trips to social agencies. This course is required for all Social Work majors.

2170 Aging in America: Concepts and Controversies (3)
Same as ID 2170, Sociology 2170, and Ger 2170. This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion, and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

3100 Introduction to Interventive Strategies for Social Work Practice (3)
Prerequisites: Soc Wk 1200, Soc 1010 and Psych 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.

3150 Human Behavior in the Social Environment (3)
Prerequisite: Biol 1012 and Soc 2160 or Psych 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.

3200 Interventive Strategies for Social Work with Individuals, Families, and Groups (3)
Prerequisites: Soc Wk 3100, and Soc Wk 3150. This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in SW 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.

3300 Interventive Strategies for Social Work with Organizations and Communities (3)
Prerequisites: Soc Wk 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.

3400 Social Issues and Social Policy Development (3)
Prerequisites: Soc Wk 1200, Pol Sci 1100, and Econ 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.

3500 Research Design in Social Work (3)
Prerequisites: Satisfaction of Math Proficiency requirement and Soc 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.

3601 Abused and Neglected Children (3)
Prerequisite: Soc Wk 3150 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.

3602 Child Welfare Practicum Seminar (3)
Prerequisites: Soc Wk 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.

3900 Selected Topics in Social Work Practice (3)
Prerequisite: Soc Wk 3100 or Soc Wk 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.

4100 Diversity and Social Justice (3)
Same as Soc 4100. Prerequisite: Soc 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.

4200 Foundations of Human Behavior in the Social Environment (3)
Prerequisites: Soc Wk 3150 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.

4250 Social Work and Human Service Organizations (3)
Prerequisites: Soc Wk 3150 and 3300 or Psych 3318 or BA 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.

4376 Mental Health and Aging (3)
Prerequisites: 9 hours of psychology, graduate standing, or consent of instructor. (Same as Ger and Psych 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.

4398 Child Maltreatment: A Multidisciplinary Approach (3)
Same as Psych 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.

4399 Seminar: Child Sexual Abuse (1)
Same as Psych 4399. Provides intensive study in interviewing, legal issues, assessment, medical issues, and therapeutic intervention in cases of child sexual abuse.

4400 Social Work Research Methods and Analysis I (3)
Prerequisites: Soc Wk 3500 or Soc 3230 and 3231 or equivalent and Soc 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.

4601 Women's Social Issues (3)
Prerequisite: Soc Wk 3150 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.

4650 Forensic Issues in Mental Health (3)
(Same as CCJ 4650)
This is an intensive course, investigating the intersection between the legal system and mental health. Students will explore issues involved in civil and criminal trial proceedings such as insanity defenses, diminished capacity, and competency to stand trial, civil commitment, battered women and rape trauma syndrome, sexual abuse of children, child custody, and domestic violence. In addition, the course will examine the roles of mental health practitioners as forensic evaluators, trial consultants, and expert witnesses in a variety of mental health related cases.

4800 Supervised Field Experience in Social Work I (4)
Prerequisites: Soc Wk 3200 must be taken prior to or concurrently, Soc Wk 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.

4801 Integrative Field Experience Seminar I (2)
Prerequisites: Consent of instructor and concurrent registration in Soc Wk 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.

4850 Supervised Field Experience in Social Work II (4)
Prerequisites: Soc Wk 4800, Soc Wk 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 Soc Wk 4801, or change agencies with the consent of the instructor.

4851 Integrative Field Experience Seminar II (2)
Prerequisites: Consent of instructor and concurrent registration in Soc Wk 4850. This seminar is a continuation of Soc Wk 4801. Classroom discussion will emphasize administration and community organization issues.

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.

4911 Management Issues in Nonprofit Organizations: Staff Management Issues (1)
Prerequisite: Junior Standing. Same as Pol Sci 4911 and PPA 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.

4912 Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)
Prerequisite: Junior Standing. Same as Pol Sci 4912 and PPA 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.

4913 Management Issues in Nonprofit Organizations: Financial Issues (1)
Prerequisite: Junior Standing. Same as Pol Sci 4913 and PPA 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.

4940 Leadership and Management in Nonprofit Organizations (3)
Prerequisite: Junior standing. Same as PPA 4940, Pol Sci 4940, Soc 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.

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.

4960 American Philanthropy and Nonprofit Resources Development (3)
Prerequisite: Junior standing or consent of instructor. Same as Pol Sci 4960 and PPA 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.

5100 Generalist Social Work Practice (3)
Prerequisite: SW 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.

5200 Social Policy and Social Services (3)
Prerequisite: Soc Wk 3400 or Pol Sci 2420 or Pol Sci 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.

5300 Community Practice and Social Change (3)
Prerequisites: Soc Wk 3300 or Soc 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.

5400 Social Work Research Methods and Analysis II (3)
Prerequisites: Soc Wk 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.

5610 Mechanisms of Aging I: The Aging Body (1)
Prerequisites: Graduate standing and Biol 1102 or equivalent. (Same as Ger 5610 and Psych 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 and how these changes affect behavior.

5611 Mechanisms of Aging II: The Aging Brain (1)
Prerequisites: Soc Wk 5610, Ger 5610, Psych 5610 or equivalent or consent of instructor. (Same as Ger 5611 and Psych 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 and how these systems impact behavior.

5612 Mechanisms of Aging III: Diseases of Aging (1)
Prerequisites: Soc Wk 5610 and Soc Wk 5611 or Ger 5610 and Ger 5611 or Psych 5610 and Psych 5611 or equivalent or consent of instructor. (Same as Ger 5612 and Psych 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, mind, behavior.

5620 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.

5630 Diagnosis and Related Pharmacology for Social Work Practice (3)
Prerequisites: Soc Wk 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.

5640 School Social Work (3)
Prerequisites: Soc Wk 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.

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; 75 contact hours=1 credit hour. May be repeated once.

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.

6100 Theory and Practice with Children and Youth (3)
Prerequisite: Soc Wk 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.

6150 Theory and Practice with Families (3)
Prerequisites: Soc Wk 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.

6160 Advanced Interventive Strategies Across the Life Span (3)
Prerequisites: Soc Wk 5100 or equivalent or consent of instructor. Examines theory and empirically-based assessment and intervention strategies for diverse populations across the life span. Students will gain basic mastery of behavioral, cognitive-behavioral, brief therapeutic and supportive psychotherapeutic techniques and their appropriate use with children, adolescents, and young, middle, and older adults. The course will also consider the effects of family, peers and societal context (e.g., poverty, racism, and ageism) in understanding psycho-social stressors particular to each life era, including academic failure and delinquency, substance abuse,

physical and mental illness, family disruption and instability, and grief and loss issues.

6200 Family Policy (3)
Prerequisites: Soc Wk 5200 or equivalent or consent of instructor and graduate standing. Same as Pol Sci 6416 and Soc 6200. Examines policy development, implementation and impact of social policies on children, youth, and families. International, focus, including topics such as economic support, health national, and state policies that affect basic family needs will be the 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.

6250 Social and Economic Development Policy (3)
Prerequisites: Soc Wk 5200 or equivalent or consent of instructor and graduate standing. Same as Pol Sci 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.

6400 Practice and Program Evaluation (3)
Prerequisites: Soc Wk 4400 and 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.

6417 Income & Pension Policy for the Aged (3)
Prerequisites: Graduate standing or consent of instructor. Same as PPA 6417, Ger 6417 and Pol Sci 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.

6443 Health Care Policy (3)
Prerequisites: Graduate standing or consent of instructor. Same as Pol Sci 6443, Ger 6443 and PPA 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.

6449 Human Resources in the Public Sector (3)
Prerequisites: PPA 6600 or consent of instructor. Same as Pol Sci 6449 and PPA 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.

6450 Gerontological Assessment (3)
Prerequisites: Graduate Standing. This course provides an overview of psychosocial assessment with older adults and their family caregivers. Major areas of gerontological assessment practice are considered, including dementia, mood disorders, suicide, grief, alcoholism, elder abuse/neglect, family caregiving, and interdisciplinary team issues.

6491 Strategic and Program Planning for Nonprofit Organizations (3)
Prerequisites: Graduate standing or consent of instructor. Same as Pol Sci 6490 and PPA 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.

6800 Graduate Field Practicum II (2-6)
Prerequisites: Soc Wk 5801 and Soc Wk 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 Soc Wk 6850.

6850 Graduate Field Practicum III (2-6)
Prerequisites: Soc Wk 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 6800.

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.

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 Emeritus*
Ph.D., Harvard University
Herman W. Smith, Professor Emeritus*
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, Associate Professor
Ph.D., University of Missouri-Columbia
Susan Tuteur, Adjunct Assistant Professor
Ph.D., University of Chicago
Linda Benson, Lecturer
M.A., UM-St. Louis
Robert Keel, Lecturer
M.A., Washington 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. (30 credit hours) or B.S. (36 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 30 hours of sociology course credit including the following required core courses:

1010, Introduction to Sociology
3210, Sociological Theory

3220, Sociological Statistics, **or**
Math 1310, Elementary Statistical Methods, **or**
Math 1102, Finite Mathematics I, or **Math 1105,** Basic Probability and Statistics
3230, 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 4000 level (no more than three hours of either Soc 4350, Special Study or Soc 4385, Internship in Sociology may be applied to this 4000 level requirement). No more than three hours in sociology below the 2000 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.

Eight additional sociology courses (24 hours), chosen with the approval of the student's faculty advisor, are required for the B.S. in Sociology, including a minimum of four courses (twelve hours) at the 4000 or 5000 level (no more than three hours of either Soc 4350 Special Study or Soc 4385, Internship in Sociology may be applied to the 4000 or 5000 level requirement). No more than three hours in sociology below the 2000 level can count toward this 24-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 1001, Principles of Microeconomics
BA 2400, Fundamentals of Financial Accounting
Sociology 4646, Demographic Techniques

Students may then choose to complete **one** of the following three sets of courses:

1) Marketing Management
3700, Basic Marketing
3740, Marketing Intelligence
3760, Industrial Marketing

2) Financial Management
3500, Financial Management
3501, Financial Policies
3520, Investments

3) Accounting
2410, Managerial Accounting
3401, Intermediate Accounting I
3411, Cost Accounting

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 4000 level (no more than 3 hours of either Soc 4350, Special Study, or Soc 4385, Internship may be applied to this 4000 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 Soc 3220, 3230, and 3231. This award carries a stipend for the student to serve as an undergraduate course assistant for Soc 3220, or 3230 and 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 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 137 hours, of which 30 must be at the 4000 or 5000 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 4000 level research practicum course, Soc 5400, Soc 5402, and Soci 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 4000 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, 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:

1010, Introduction to Sociology and three additional sociology courses.

The following UNDERGRADUATE courses are required for majors in the 2 + 3 program:

3210, Sociological Theory
3220, Sociological Statistics (or an approved statistics course)
3230, Research Methods

GRADUATE SOCIOLOGY REQUIREMENTS FOR STUDENTS IN THE 2 + 3 PROGRAM

The following GRADUATE courses are required at the 300 to 499-level:

1. **Sociology 5400**, Proseminar in Sociology
2. **Sociology 5402,** Advanced Quantitative Techniques
3. **Sociology 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 (Soc 5480, Individual Study) or a 6-hour preparatory sequence and an approved paper (Soc 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 casework 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 3.0.
- 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
One University Blvd.
St. Louis, MO 63121-4499

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

5400, Proseminar in Sociology
5402, Advanced Quantitative Techniques
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; **Soc 5480,** Individual Study or a 6-hour preparatory sequence and an approved paper **Soc 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 B.A. or B.S. 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 M.A. 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 M.A. 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 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:
1010, 1040, 1999, 2100, 2102, 2103, 2160, 2180, 3200, 3202, 3210, 3214, 3220, 3224, 3230, 3231, 3241, 3245, 3250, 3262, 3264, 3268, 3270, 3278, 3280, 3286, 3290a, 3290b, 3290c, 4040, 4100, 4300, 4310, 4312, 4314, 4316, 4317, 4320, 4331, 4336, 4338, 4340, 4342, 4344, 4646, 4350, 4352, 4354, 4356, 4360, 4361, 4370, 4375, 4378, 4380, 4940

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.

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.

1999 The City (3) [MI, V, SS]
Same as Pol Sci 1990, and ID 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.

2100 Women in Contemporary Society (3)
Prerequisite: Soc 1010 or ID 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.

2102 Introduction to Women's, Studies: Gender, and Diversity (3)
Same as IWGS 2102 and Psych 2102. This core course in required for all Women's and Gender Studies Certificate earners. This class introduces students to the cultural, political, and historical issues of concern to women and familiarizes students with the diversity of women's experiences across lines of social class, race, sexuality, and culture. It includes representations and women's contributions to multiple disciplines including anthropology, history, philosophy, politics, psychology and sociology.

2103 Gender Roles in Society (3)
Prerequisite: Soc 1010 or WGS 1012 or consent of instructor. The study of social processes through which gender roles are developed and acquired; the impact of

gender roles on personal identity and social conduct; the relationship between gender roles and social inequality; and individual and social consequences of changing gender roles in contemporary society.

2160 Social Psychology (3)
Same as Psych 2160. Prerequisite: Soc 1010 or Psyh 1003. Study of the interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

2170 Aging in America: Concepts and Controversies (3)
Same as ID 2170 and Ger 2170. This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion, and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

2180 Alcohol, Drugs, and Society (3)
Same as CCJ 2180 Prerequisite: Soc 1010 or Psych 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.

3200 Sociology of Deviant Behavior (3)
Prerequisite: Soc 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.

3202 Urban Sociology (3)
Prerequisite: Soc 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.

3210 Sociological Theory (3)
Prerequisite: Soc 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.

3214 Juvenile Delinquency and Youth Crimes (3)
Prerequisite: Three hours of 2000 level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention.

3220 Sociological Statistics (3)
Prerequisites: Soc 1010 and Math 1020 or 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.

3224 Marriage and the Family (3)
Same as Nurs 3224. Prerequisite: Soc 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.

3230 Research Methods (3)
Prerequisites: Soc 1010 and satisfaction of mathematics proficiency requirement and Soc 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. The course also includes an introduction to the Statistical Package for the Social Sciences (SPSS) and lab exercises.

3241 Selected Topics in Macro-sociology (1-3)
Prerequisite: Soc 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.

3245 Sociology of South Africa (3) [CD]
Prerequisite: Soc 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.

3250 Sociology of Victimization (3)
Prerequisites: Soc 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.

3262 Social Psychology of Urban Life (3)
Prerequisites: Soc 1010 or Psych 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.

3264 The Sociology of Religion (3)
Prerequisite: Soc 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.

3268 The Sociology of Conflict (3)
Prerequisite: Soc 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.

3270 Socialization (3)
Prerequisite: Soc 1010 or consent of instructor. Analysis of the structural and social psychological aspects of roles and the self as a product of social interaction.

3278 Sociology of Law (3)
Prerequisite: Soc 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.

3280 Society and Technology (3)
Prerequisite: Soc 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.

3286 Society, Arts, and Popular Culture (3)
Same as Anth 3286. Prerequisite: Soc 1010 or Anth 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.

3290a, 3290b, 3290c Undergraduate Seminar in Sociological Issues (3)
Prerequisites: Soc 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.

3298 Practicum in Field and Laboratory Research (1-3)
Prerequisites: Soc 3220 and Soc 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 4000 level course taken for major elective credit requires prior completion of two of the following: Soc 3210, Soc 3220, or Soc 3230.

4040 Survey Research Practicum (3)
Same as Econ 4140 and Pol Sci 4040. Prerequisites: Junior standing, Soc 3220, Soc 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.

4100 Diversity and Social Justice (3)
Same as Soc Wk 4100. Prerequisites: Soc 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.

4300 Communities and Crime (3)
Same as CCJ 4300. Prerequisite: CCJ 1110, 1120, 1130, 2210, 2220, 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.

4310 Selected Topics in Sociological Theory (1-3)
Prerequisite: Soc 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.

4312 Sociology of Wealth and Poverty (3)
Prerequisites: Soc'1010 and junior standing or consent of instructor. Theory and research on social stratification and inequality in contemporary societies.

4314 Social Change (3)
Prerequisites: Soc 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.

4316 Power, Ideology, and Social Movements (3)
Prerequisite: Soc 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.

4317 Social Psychology of Conflict and Negotiation (3)
Same as Psych 3317. Prerequisite: nine (9) hours of Psychology or nine (9) hours of sociology, including Psych 2160 or Soc 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.

4320 Forms of Criminal Behavior (3)
Same as CCJ 4320. Prerequisite: CCJ 1110, 1120, 1130, 2210, 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.

4330 Field Research in Crime and Deviance (2-4)
Prerequisites: Soc 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.

4331 Qualitative Methods in Social Research (3)
Prerequisite: Soc 3220 and Soc 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.

4336 Organizations and Environments (3)
Prerequisites: Soc 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.

4338 Sociology of Health (3)
Same as Nurs 4338. Prerequisites: Soc 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.

4340 Race, Crime, and Justice (3)
Same as CCJ 4340. Prerequisite: CC J 1110, 1120, 1130, 2210, 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.

4342 World Population and Ecology (3)
Prerequisites: Soc 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-Western world. Emphasis is directed to population policies in e.g., Africa and India and China.

4344 Problems of Urban Community (3)
Prerequisites: Soc 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.

4350 Special Study (1-10)
Prerequisite: Consent of instructor. Independent study through readings, reports, and field work.

4354 Sociology of Business and Work Settings (3)
Prerequisites: Soc 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.

4356 Sociology of Education (3)
Prerequisite: Soc 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.

4360 Sociology of Minority Groups (3)
Prerequisites: Soc 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.

4361 Social Gerontology (3)
Same as Ger 4361. Prerequisites: Soc 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.

4370 Selected Topics in Techniques of Sociological Research (1-3)
Prerequisite: Soc 3220, 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.

4375 The Social Psychology of Disabilities (3)
Prerequisite: Soc 2160 or Psych 2160 or consent of instructor. Same as Psych 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.

4378 Selected Topics in Social Psychology (1-3)
Prerequisite: Psych 2160 or Soc 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.

4380 Selected Topics in Social Policy (1-3)
Prerequisite: Soc 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.

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.

4646 Demographic Techniques (3)
Prerequisites: Soc 3220 and Soc 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.

4940 Leadership and Management in Nonprofit Organizations (3)
Same as Soc Wk 4940, Pol Sci 4940, and PPA 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.

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.

5402 Advanced Quantitative Techniques (3)
Prerequisite: Soc 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.

5404 Advanced Methodology (3)
Prerequisite: Soc 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.

5406 Research Practicum (3)
Prerequisites: Soc 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.

5410 Comparative Social Structures (3)
Prerequisite: Soc 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.

5415 Foundations of Criminological Theory (3)
Same as CCJ 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.

5420 Theories of Conflict (3)
Prerequisite: Soc 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.

5422 Family and Interpersonal Conflict Resolution (3)
Prerequisite: Soc 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.

5424 Conflict Management in Organizations (3)
Prerequisite: Soc 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.

5426 Community and Regional Conflict Intervention (3)
Prerequisite: Soc 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.

5430 Policy Mediation Processes (3)
Prerequisite: Soc 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.

5432 Survey Research Methods (3)
Same as Ed Rem 6712, Pol Sci 6406. Prerequisites: An introductory statistics course such as Soc 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.

5440 Seminar in Urban Sociology (3)
Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

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.

5449 Issues in Retirement (3)
Same as Ger 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.

5450 Seminar in Social Psychology (3)
Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

5451 Negotiating Workplace Conflict (3)
Same as Mgt. 5612 and PPA 6680.
Prerequisites: PPA/Mgt. 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.

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.

5461 Law and Social Control (3)
Same as CCJ 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.

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 5000 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.

5475 Introduction to Evaluation Research Methods (3)
Same as Psych 5475, PPA 6750, and CC J 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.

5476 Research Practicum in Evaluation Research Methods (3)
Prerequisites: Soc 5475 and consent of instructor. Instruction in, and supervision of, research design and data collection for evaluation of social-deviance action program research report. Concurrent with on-site participant observation.

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.

5490 Supervised Research (1-10)
Prerequisites: Graduate standing and 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.

5492 Advanced Sociological Theory (3)
Prerequisite: Soc 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.

5495 Sociological Reporting (3)
Prerequisites: Soc 5400, Soc 5402, and Soc 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, nontechnical magazines, books, and monographs, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored.

5498 Advanced Seminar in Gerontology (3)
Prerequiste: Graduate standing. This course will provide in-depth analysis of specialized topics in Ger which are not covered in required courses. (Course may be repeated for a maximum of nine credits, assuming topics are different.)

6200 Family Policy (3)
Same as Pol Sci 6416 and SW 6200.
Prerequisites: SW 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.

6442 Minority Aging (3)
Same as Ger 6442. Prerequisite: Soc 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.

6445 Sociological Dimensions of Chronic Illness (3)
Same as Ger 6445. Prerequisite: Soc 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.

6446 Selected Topics in Health Care Policy (3)
Same as PPA 6460 and Pol Sci 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.

Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either Bachelor of Liberal Studies degree or 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 cross disciplinary fashion.

Bachelor of Liberal Studies (BLS)

The Bachelor of Liberal Studies is a degree program that enables students to combine structured academic emphases in ways more relevant to their interests than the standard academic major.

Students who participate in this program must declare their areas of study (two minors or minor and certificate) at the time they declare that BLS is their intended degree. The plan of study should be approved at the beginning of the program.

To obtain a Bachelor of Liberal Studies (BLS), a student must complete:

- UM-St. Louis General Education Requirements

General Education (consult General Education section of course listings)

Communication Skills	6 credit hours
Managing Information	3 credit hours
Valuing Skills	3 credit hours
Social and Behavioral Sciences	9 credit hours
Humanities	9 credit hours
Math/Science	12 credit hours
	42 credit hours

In addition, students must complete the **State Requirement (3)** and **Cultural Diversity Requirement (3)** if not met in General Education course selection

- The campus requirement of proficiency in English Composition
  English 1100 - Freshman Composition
  English 3100 – Advanced Expository Writing
- The campus requirement of proficiency in Mathematics (to be completed in 1st 24 hours at the University)
- A Liberal Studies Concentration (33-41 hours)

The requirement for designated (identified) BLS Minors in participating departments or other units (minimum of 15 hours each)

Or

A designated minor and a designated multi-disciplinary certificate (minimum of 15 hours in each, with no course being used more than once to complete the concentration)

And

A capstone course (minimum of 3 hours)

Note: (Not all Departments have capstone courses so students must be careful to pair minors and certificates so that they have a capstone course.)

Also Required

- Minimum of 45 credit hours in Junior and Senior level course work (3000 and 4000 level)
- Electives 28-42
- A minimum of 120 credit hours
- Overall GPA of 2.0 with minimum GPA of 2.0 in major areas
- Residency requirement, in addition to campus residency, unless otherwise specified, 9 graded hours in each minor and certificate at 2000 level or above and one capstone course

The College of Arts and Sciences (CAS), Fine Arts and Communication (CoFAC) and Business Administration (BA) have joined together to make available Liberal Studies combinations involving the following units:

Department of Anthropology	(CAS)
Department of Art History	(CoFAC)
Minor in Art History or Studio Art	
Department of Biology	(CAS)
College of Business Administration	(BA)
Minor in Business Administration only	
Department of Chemistry and Biochemistry	(CAS)
Department of Communication	(CoFAC)
Department of Criminology and Criminal Justice	(CAS)
Department of Economics	(CAS)
Department of English	(CAS)
Department of Foreign Languages and Literature	(CAS)
Department of Mathematics and Computer Science	(CAS)
Department of Music	(COFAC)
Department of Philosophy	(CAS)
Department of Physics and Astronomy	(CAS)
Department of Political Science	(CAS)
Department of Psychology	(CAS)
Department of Sociology	(CAS)
Institute of Women's and Gender Studies	(CAS)

Bachelor of Liberal Arts: Capstone and Other Restrictions

A. The School of Social work, as well as the Colleges of Education, Nursing, and the Joint Engineering Program are not participants.

B. The College of Business is participating but only the General Business Minor may be used, and they will not offer a capstone course, so students selecting the Business Minor as one of the components for the BLS must select the other minor from or a department that does offer a capstone.

C. The Studio Arts Department of Art and Art History will not develop a capstone as they do not feel that a student with only 18 hours of Studio Art has sufficient training for a capstone. So again, students selecting a Studio Art Minor will have to pair it with a department that does have a capstone.

D. Undergraduate certificates and Interdisciplinary Minors may be paired with a minor to form a BLS core; however, since certificates and interdisciplinary minors will not have capstone courses, they must be paired with a minor that does have a capstone.

E. Capstone courses cannot be used to make up the required courses for the minor. The capstone will be in addition to the courses presented for the minor.

F. No course can be used more than once in the core.

The following departments have identified a Capstone:

Anthropology: Anthropology 4301-Ideas and Explanations in Anthropology
Art & Art History: Art 3395-Sophomore/Junior Seminar: The Methods of Art History
Biology: Biology 4889-Senior Seminar
Chemistry/Biochemistry: Chemistry 3022-Introduction to Chemical Literature (1) **and** Chemistry 3905-Chemical Research (1) **and** Chemistry 4897-Seminar (1)
Communication: Communication 3330-Research Methods I
Criminology & Criminal Justice: Criminology 4390-Seminar in Criminology & Criminal Justice
Economics: Economics 4100-Introduction to Econometrics [If this course is used to complete the minor, then student must take an additional 4000 level Economic course]
English: Additional 4000 level English Literature course [Student must identify themselves as using the additional 4000 level course as a Capstone so additional requirements can be assigned]
Foreign Languages and Literatures:
French 3211-Contemporary French Culture
German 3210-German Culture and Civilization
Spanish 3210-Hispanic Culture and Civilization: Spain **[or]** Spanish 3211-Hispanic Culture and Civilization: Spanish America
History: History 4004-Senior Seminar (5) credits
Mathematics/Computer Science:
Computer Science: 4000 Level Course in Computer Science, which was not counted as one counted as one of the electives towards the minor.
Mathematics: 4000 Level Course in Mathematics, which was not counted as one counted as one of the electives towards the minor.
Statistics: There will be no Capstone course in Statistics. The student will have to choose a capstone course from the other area of concentration.
Music: Music 4000-Directed Studies (3) credits [Under the Music History and Literature, Music Theory and Composition, Music Pedagogy, or Music Practicum curricular destination]
Philosophy: Philosophy 4491-Senior Seminar
Physics: Physics 4381-Directed Readings in Physics
Political Science: Political Science 3950-Senior Seminar in Political Science
Psychology: An additional 4000 level Psychology course beyond Psychology courses present for the Minor
Sociology: Sociology 4350-Special Study in Sociology

Interdisciplinary Minors and Certificates

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.

Anthropology
2120, Native Peoples of North America

Art and Art History
1104, Indigenous Arts of North America
2270, American Art to 1876
2279, American Architecture

English
1170, American Literary Masterpieces
1700, African-American Literature
1710, Native American Literature
2710, American Literature I
2720, American Literature II

History
1001, American Civilization (to the mid-nineteenth century)
1002, American Civilization (from the mid-nineteenth century)
1003, African-American History
1004, The History of Women in the United States

Honors
1210, American Traditions: Humanities
1220, American Traditions: the Fine and Performing Arts
1230, American Traditions: Social Sciences
1310, Non-Western Traditions: Humanities
1320, Non-Western Traditions: the Fine and Performing Arts
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 1210 can fulfill the requirements from this group in literature/American Studies and Honors 1230 can fulfill the History/Political Science requirement. Honors 1310-1330 can qualify as additional Group A choices when their focus is on Native American traditions.

Music
1002, Introduction to African American Music
1060, Introduction to Jazz

Philosophy
3347, American Philosophy

Political Science
1100, Introduction to American Politics
1990, The City
2300, State Politics
2350, Introduction to Urban Politics
2650, American Political Thought
2900, Studies in Political Science (when appropriate).

Sociology
1990, The City

B. Optional 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
3250, American Folklore
3291, Current Issues in Anthropology (when appropriate).

Art and Art History
3360, Photography and Society (same as ID 3360)
4475, Topics in American Art
4481, Topics in Contemporary Art (when appropriate)

Communication
1050, Introduction to Mass Media
2243, Communications in American Politics
3350, Mass Communication History
3352, Mass Media Criticism

Economics
2800, History of American Economic Development (same as Hist 2800)

Education
Ed Fnd 3251, Black Americans in Education
Ed Fnd 4330, History of American Education
Ed Fnd 4332, Progressivism and Modern Education

English
3800, Topics in Women and Literature (when appropriate)
4610, Selected Major American Writers I
4620, Selected Major American Writers II
4640, American Fiction to World War I
4650, Modern American Fiction
4930, Studies in Women and Literature (when appropriate)
4950, Special Topics in Literature (when appropriate)

History
3042, U.S. Social Movements in the 20th Century
2800, History of American Economic Development (Same as Econ 2800)
3051, African-American History: From Slavery to Civil Rights
3052, African-American History: From Civil Rights to Black Power
2219, U.S. Labor History
4013, United States History for the Secondary Classroom
3000, Selected Topics in History (when appropriate)
3012, The Indian in American History
3031, History of Women in the United States
3021, U. S. Urban History
3053, African-American Women's History
3043, History of Crime and Justice

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.)
2010, Inquiries in the Humanities
2020, Inquiries in the Fine and Performing Arts
2030, Inquiries in the Social Sciences
2070, Inquiries in Education
3010, Advanced Seminar in the Humanities
3020, Advanced Seminar in the Fine and Performing Arts
3030, Advanced Seminar in the Social Sciences
3070, Advanced Seminar in Education
3510, Research Seminar: Humanities
3520, Research Seminar: Fine and Performing Arts
3530, Research Seminar: Social and Behavioral Sciences
3570, Research Seminar: Education

Interdisciplinary
3360, Photography and Society (same as Art 3360)
Philosophy
4410, Significant Figures in Philosophy (when appropriate)
Political Science
2280, Judicial Politics and Policy
3300, The American Presidency
3331, Congressional Politics
2320, African Americans and the Political System
3340, Politics and the Media
3450, Political Parties and Elections
2380, Women in U. S. Politics
3200, Constitutional Law
3210, Civil Liberties
3390, Studies in American Politics (when appropriate)

Sociology
1040, Social Problems
2100, Women in Contemporary Society
3268, The Sociology of Conflict
4316, Power, Ideology and Social Movements
4360, Sociology of Minority Groups
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 form this group, they must be chosen from different departments.

Anthropology
2126, Archaeology of Historic St. Louis
2131, Archaeology of Missouri
2132, Archaeology of North America
2138, African-American Archaeology

Art and Art History
2281, Art Since 1945

Communication
2218, Public Policy in Telecommunication
3332, Intercultural Communications
3343, The Rhetoric of Protest
3355, Media Law and Regulation

Criminology and Criminal Justice
2240, Policing
4340, Race, Crime and Justice

English
4060, Adolescent Literature
4770, Modern Poetry
4760, Modern Drama
4740, Poetry since World War II

History
3001, United States History: Colonial America to 1763
3002, United States History: Revolution and the New Nation, 1763 - 1815
3003, United States History: Nationalism and Sectionalism, 1815 to 1860
3004, United States History: 1860-1900
3005, United States History: 1900-1940
3006, United States History: 1940 to the Present
3031, History of Women in the United States
3041, Topics in American Constitutional History
3044, American Military History to 1900
3045, American Foreign and Military Affairs, 1900-Present

Political Science
2260, Law and the Individual
2290, Women and the Law
2420, Introduction to Public Policy
2820, United States Foreign Policy
3330, Introduction to Political Behavior
3370, Mock Constitutional Convention
3410, The Politics of Business Regulation
3460, The Politics of Poverty and Welfare

Social Work
1200, Social Welfare as a Social Institution
3400, Social Issues and Social Policy Development

Sociology
1040, Social Problems
2180, Alcohol, Drugs and Society
3202, Urban Sociology
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, 303 Lucas Hall.

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:
History 1063, The African Diaspora to 1800
History 1064, The African Diaspora Since 1800
2. A minimum of **two** courses from the following:
Anth 1005, Human Origins
Anth 2124, Cultures of Africa
Art 1105, Introduction to The Arts of Africa
English 1700, African-American Literature
History 1003, African American History
History 1061, African Civilization to 1800
History 1062, African Civilization Since 1800
Music 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 3234, Cultural Continuity and Change in Subsaharan Africa
Anth 3235, Women in Subsaharan Africa: A Contemporary Perspective
History 3053, African American Women's History
History 3050, Topics in African-American History
History 3301, West Africa to 1800
History 3302, West Africa Since 1800
History 3303, African Diaspora to 1800
History 3304, African Diaspora since 1800
Pol Sci 2320, African Americans and the Political System
Pol Sci 2580, African Politics
Psych 4392, Selected Topics in Psychology: African American Psychology (Note: Students should only take Psych 392 when the topic is African American Psychology).
Sociology 3245, Sociology of South Africa
Sociology 4360, Sociology of Minority Groups
Comm 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 student's 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 1001
Latin 1002 or
Ancient Greek 1001
Ancient Greek 1002
and three courses from the following list and any other course approved by the coordinator:
Ancient Greek 1001, Intermediate Ancient Greek Language and Culture
Art 2211, Art and Archeology of the Ancient World
Art 2212, Greek Art and Archeology
Art 2213, Roman Art and Archeology
Art 4411, Topics in Ancient Art and Archeology
English 1200, Myth
English 2200, Classical Literature in Translation
History 3081, Rome: The Republic and Empire
Latin 2101, Intermediate Latin Language and Culture
Phil 3301, Ancient Philosophy
Phil 4402, Aristotle
Phil 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 1200, Foundations of Law: An Introduction to Legal Studies (crosslisted as Pol Sci 1200 and CCJ 1200),
and five courses from the following list. At least three courses must be taken at the 3000 level and above. No more than two courses from a single discipline may be included in the minor.

CCJ 1075, Crime and Punishment
CCJ 1100, Introduction to Criminology and Criminal Justice
CCJ 1130, Criminal Justice Policy
CCJ 2226, Law and the Individual
CCJ 2227, Urban Law: Poverty and the Justice System
CCJ 3345, Rights of the Offender
Comm 3355, Media Law and Regulation
Econ 3650, Law and Economics
History 3041, Topics in American Constitutional History
History 3071, Medieval England
Phil 5533, Philosophy of Law
Phil 4487, Seminar in Philosophy of Law
Pol Sci 2290, Women and the Law
Pol Sci 2260, Law and the Individual (cross listed as CCJ 2226)
Pol Sci 2280, Judicial Politics and Policy
Pol Sci 3200, Constitutional Law
Pol Sci 3210, Civil Liberties
Pol Sci 3260, Judicial Decision Making
Pol Sci 3290, Studies in Public Law
Pol Sci 4850, International Law
Soc 2175, Women, Crime, and Society
Soc 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

A. 9 hours in communication/English professional training:

English 3140 or Comm 3214, News Writing
English 3180, Reporting **or Comm 2212**, Broadcast Writing and Reporting
English 4890, Independent Writing Project, or
Comm 3394, 3396 or 3397, Internship

B. 9 hours in public affairs at the 3000 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 3000 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 3000 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.

Requirements
Students must take:
Interdisciplinary 1990, The City
and five courses selected from the following list, at least **three courses at the 3000 level or above**. No more than two courses from a single discipline may be included in the minor.

Courses Applicable to the Minor
Anth 3242, The Culture of Cities
Anth 3250, American Folklore
Art 2279, American Architecture
Art 3365, The Artist and the City
CCJ 2230, Crime Prevention
CCJ 4300, Communities and Crime
Econ 3700, Urban and Regional Economics
Econ 3510, Public Finance: State and Local
Geography 2100, Urban Geography
Geography 2110, Location Theory
History 3000, Selected Topics in History (when urban or St. Louis history)
Pol Sci 2350, Introduction to Urban Politics
Pol Sci 3450, Urban Administration
Pol Sci 4470, Urban Planning and Politics
Psych 2256, Environmental Psychology
Psych 4235, Community Psychology
Soc 1040, Social Problems
Soc 3202, Urban Sociology
Soc 4344, Problems of Urban Community

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: 1075, 1200, 1450, 1160, 1990, 1001, 2102, 1220, 2150++, 3690*. The following courses fulfill the Humanities breadth of study requirement: 70, 1000, 1165, 4465.

*These courses may fulfill the Humanities or Social Sciences breadth of study requirements.
++ Depending on 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.

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.

1001 Special Topics (3)
Topics may very from semester to semester, however, material will be selected which will focus in the social, economic, historical or political institution of Great Britain.

1075 Crime and Punishment (3)
(Same as CC J 1075 and Soc 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.

1200 Foundations of Law: An Introduction to Legal Studies (3)
(Same as CCJ 1200 and Pol Sci 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.

1220 Special Topics in Gerontology (1-3)
(Same as Ger 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.

1450 Introduction to Labor Studies (3)
(Same as Pol Sci 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.

1990 The City (3)
(Same as Pol Sci 1990, and Soc 1999) 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.

2102 Introduction to Women's Studies (3)
(Same as Soc 2102 and Psy 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. This course explores issues of power, identity, and relationship in women's lives.

2150 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, history, 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.

2170 Aging in America: Concepts and Controversies (3)
(Same as Soc 170, SW 2170, and Ger 2170). This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion, and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

3220 Science for the Middle School Teacher I (5)
Prerequisites: Chem 1111, Bio 1811 and either Chem 1011 or Bio 1202. This course is intended to provide science content and pedagogical methods to students preparing to teach science at the middle school level. Science content in the first semester may include investigations of the properties of solids and solutions, chemical changes and conservation of matter, forces and simple machines, food webs, the environment and ecosystems, heat and radiation, waves and diffraction, static electricity and currents, but other topics from the middle school science curriculum could be substituted. Students will be expected to develop grade appropriate teaching materials, and complete individual and group investigations. Two hours of lecture, one hour of discussion , and two two-hour laboratory sessions per week.

3221 Science for the Middle School Teacher II (5)
Prerequisites: ID 3220. This course is intended to provide science content and pedagogical methods to students preparing to teach science at the middle school level. Science content is the second semester may include the atmosphere and climate, rocks and minerals, water resources, cells, and living systems, reproduction and genes, biodiversity and adaptation, water cycles, the solar system, and earth as a planet, but other topics from the middle school science curriculum could be substituted. Students will be expected to develop grade appropriate teaching materials and complete individual and group investigations. Two hours of lecture, one hour of discussion, and two two-hour laboratory sessions per week.

3352 Independent Studies in Women's and Gender Studies (1-3)
Prerequisite: Junior standing; two courses in Women's and Gender Studies, including 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.

3360 Photography and Society (3)
(Same as Art 3360). 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.

3690 The Marxist Heritage (3)
(Same as Phil 3369, and Pol Sci 3690). Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

4465 Topics in Photographic Studies (3)
(Same as Art 4465). Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

5350 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.

5351 Theories of Feminism (3)
Prerequisites: Junior standing and one Women's and Gender Studies course preferably ID 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.

5353 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.

6401 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.

6450 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.

6452 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:
Biotechnology, Business Administration, Electronic Commerce, Forensic Economics, Gerontology, Human Resources Management, Information Resource Management, Information Systems Development, Institutional Research, International Studies, Logistics and Supply Chain Management, Managerial Economics, Marketing Management, Museum Studies, Non Profit Organization Management and Leadership, Psychology-Clinical Respecialization, Taxation, Telecommunications Management, Trauma Studies, Tropical Biology and Conservation, Women's and Gender Studies, Writing, Gateway Writing Project

Undergraduate Certificate Programs:
African Studies (African Studies or African Diaspora Studies), Archaeology, Biochemistry, Biotechnology, Conservation Biology, East Asian Studies, European Studies, Greek Studies, International Business, International Studies, Labor Studies, Latin American Studies, Non Profit Organization Management and Leadership, Photographic Studies, Studies in Religions, Trauma Studies, Women and Gender Studies, Writing, Writing with Technical Emphasis

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
2124, Cultures of Africa

Area 2: Art and Art History
2105, Introduction to The Arts of African

Area 3: History
1061, African Civilization to 1800
1062, African Civilization Since 1800

Area 4: Political Science
2580, African Politics

2) One course in **two** of the following areas, a total of 6 hours:

Area 1: Anthropology
3234, Cultural Continuity and Change in Sub-Saharan Africa
3235, Women in Sub-Saharan Africa: A Contemporary Perspective

Area 2: Art and Art History
4405, Topics in the Arts of Africa

Area 3: History
3301, West Africa to 1800
3302, West Africa Since 1800

Area 4: Sociology
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

II. African Diaspora Studies

One course from **each** of the following areas, a total of 6 hours.

Area 1: Africa

Anthropology
2124, Cultures of Africa
History
1061, African Civilization to 1800
1062, African Civilization Since 1800

Area 2: Diaspora
Anthropology
1005, Human Origins
History
1003, African-American History
1063, The African Diaspora to 1800
1064, The African Diaspora Since 1800
3052, African-American History: From Civil Rights to Black Power

3. At least **one** course from each of the following areas, a total of 6 hours:

Area 1: Africa
Anthropology
3234, Cultural Continuity and Change in Sub Saharan Africa
3235, Women in Sub-Saharan Africa: A Contemporary Perspective
Art
1105, Introduction to the Arts of African
History
3301, West Africa to 1800
3302, West Africa Since 1800
Political Science
2580, African Politics
Sociology
3245, Sociology of South Africa

Area 2: Diaspora
Communication
3332, Intercultural Communication
English
1700, African-American Literature
History
3050, Topics in African-American History
3303, African Diaspora to 1800
3304, African Diaspora Since 1800
Music
1002, Introduction to African-American Music
Political Science
2320, African Americans and the Political System
***Psychology**
4392, Selected Topics in Psychology: African American Psychology
Sociology
4360, Sociology of Minority Groups

- **Note**: Students should take Psychology 4392 only when the African American Psychology topic is offered.

Biochemistry Certificate
(Refer to the Biology section of this Bulletin.)

Biotechnology Certificates
(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

1) First- and second-year Chinese, Japanese, Korean, or other appropriate Asian language (20 hours taken in four semesters).
2) History 1041 and History 1042, East Asian Civilization
3) One course in three of the following six areas, a total of nine hours:

Area 1: Anthropology
2110, Cultures of Asia

Area 2: Art and Art History
1109, The Arts of China
1110, The Arts of Japan
4408, Topics in Asian Art

Area 3: History
3101, Modern Japan: 1850 to Present
3102, Modern China: 1800 to Present
***4004,** Senior Seminar
***Note** Students should take History 4004 only when the topic is appropriate to East Asia.

Area 4 Music
1080, Non-Western Music I
1090, Non-Western Music II

Area 5: Philosophy
1120, Asian Philosophy

Area 6: Political Science
2550, East Asian Politics
***3590,** Studies in Comparative Politics
***3890,** Studies in International Relations

*Note Students should take Pol Sci 3590 or Pol Sci 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 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
2235, Italian and Northern European Renaissance Art
2245, Baroque Art and Architecture
4435, Topics in Renaissance Art
4445, Topics in Seventeenth- and Eighteenth-Century European Art
4455, Topics in Modern Art

Area 2: Economics
3310, Comparative Economic Systems

Area 3: English
2280, The Contemporary World in Literature
2320, English Literature II
4920, Continental Fiction
4410, Restoration and Eighteenth-Century Drama
4450, The Eighteenth-Century English Novel
4540, The Nineteenth-Century English Novel
4580, Literature of the Late Nineteenth and Early Twentieth Centuries
4750, Modern British Fiction

Area 4: History
1031, Topics in European Civilization: Emergence of Western Europe to 1715
3085, The Age of the Renaissance
3086, The Age of Reformation
3092, Europe 1900 - 1950: War and Upheaval
3093, Europe, 1950 - Present: Peace and Prosperity
3094, France in the Modern Age
3095, Germany in the Modern Age

Area 5: Foreign Languages and Literatures

FRENCH
2110, Modern French Literature in Translation
2150, European Literature in Translation: Special Topics
3211, Contemporary French Culture
3281, French Literature II: Nineteenth and Twentieth Centuries
4341, Seventeenth-Century French Theatre and Poetry
4342, Seventeenth-Century French Prose
4353, Eighteenth-Century French Literature
4354, Eighteenth-Century French Theatre and Novel
4362, Nineteenth-Century French Novel
4371, Twentieth-Century French Novel
4375, Modern French Theatre

GERMAN
2110, Masterpieces of German Literature in Translation
2150, European Literature in Translation: Special Topics
3201, Masterpieces of German Literature
3202, The German Novelle and Drama
3210, German Culture and Civilization
4315, German Classicism and Romanticism
4320, German Realism and Naturalism
4345, Modern German Literature
4397, Survey of German Literature Part I
4398, Survey of German Literature Part II

SPANISH
2110, Spanish Literature in Translation
2150, European Literature in Translation: Special Topics
4310, Spanish Literature from 1898 to 1939
4315, Spanish Literature from 1939 to the Present
4320, Realism and Naturalism in the Nineteenth-Century Spanish Novel
4321, Poetry and Drama of the Nineteenth Century
4325, Poetry and Drama of the Golden Age

Area 6: Music
4220, Music of the Renaissance
4230, Music of the Baroque
4240, Music of the Classic Period
4250, Music of the Romantic Period

Area 7: Philosophy
3303, Early Modern Philosophy
3304, Kant and Nineteenth-Century Philosophy
3305, Twentieth-Century Philosophy
4405, The Rationalists
4406, The British Empiricists

Area 8: Political Science
2510, Comparative Politics of Europe
2560, Russia and the New Republics
3840, European International Relations
***4510,** Comparative Public Policy and Administration
***3590,** Studies in Comparative Politics
***3890,** Studies in International Relations
***Note** Students should take PolSci 4510, 3590, **or** 3890 only when the topic is appropriately European.

Forensic Economics Certificate
(Refer to the Economics section of this Bulletin.)

Gerontology Certificate
(Refer to the Graduate School-Gerontology section of this Bulletin.)

Greek Studies Certificate
Students seeking the Greek Studies Certificate must complete both a language studies component and a focus area component. Courses are 3 credit hours unless noted otherwise.

I. Greek Language. Students must complete at least 9 credit hours from the following courses.

Ancient Greek
1001, Ancient Greek 1 (5)
1002, Ancient Greek 2 (5)
2101, Intermediate Ancient Greek Language and Culture
2190, Greek and Latin in English Today
2151, Special Readings (1-3)

Modern Greek
1001, Modern Greek I (5)
1002, Modern Greek II (5)

2101, Intermediate Modern Greek Language and Culture
2150, Modern Greek Literature in Translation
2190, Special Readings (1-3)

II. Focus Area. Students must complete at least 9 credit hours in one of the following focus areas.

Literature and Culture

Anthropology
4350, Special Study*

English
1200, Myth
2200, Classical Literature in Translation
History
1030, The Ancient World
2115, Greek History and Culture (same as Anthropology 2115)
Modern Greek [Mod. Gr. 2772]
2150, Modern Greek Literature in Translation**
2190, Special Readings (1-3)**

Music History and Literature
4270, A History of Byzantine Music and Hymnography

Philosophy
3301, Ancient Philosophy
4401, Plato
4402, Aristotle

Archaeology and Art History

Anthropology
2190, Special Topics in Archaeology*
4309, Archaeological Field School (3-6)*
4350, Special Study (1-3)*

Art History
2211, Art and Archaeology of the Ancient World
2212, Greek Art and Archaeology
4411, Topics in Ancient Art and Archaeology*
3390, Special Study (1-10)*
4490, Special Study (1-10)*

Notes:
*Must be taken only when appropriate to Greek Studies.

**These courses will count for either the language requirement or the focus area requirement but not for both.

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:
3780, International Marketing
3680, International Management
3580, International Finance

Area 2: International Studies:
Anth 3238, Culture and Business in East Asia
Econ 3300, International Economic Analysis
Econ 3301, International Finance
Econ 3310, Comparative Economic Systems
Econ 3320, Economic Development
Pol Sci 3830, International Political Economy
Pol Sci 3890, Studies in International Relations (International Relations of East Asia)
Sociology 3241, Selected Topics in Macro-sociology. (Work and Industry in Japan)
Sociology 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 Supérieure de Commerce de Saint Etienne, or Université Jean Moulin, may also qualify to apply 12 credit hours toward the International Business Certificate.

Graduate Certificate in Institutional Research
The Post-Master's Certificate Program in Institutional Research (CPIR) is for academics who want training in Institutional Research in preparation for working in an IR Office at a postsecondary institution, a government agency, or a private education organization. The program consists of 18 hours and may be taken as part of a doctoral program. Of the 18 hours, 12 are in the required core (6 hours are in research methods and 6 hours in IR seminar), plus a 3-hour Higher Education (HIR ED) or an Educational Research (ED REM) elective and a 3-hour capstone. Students may transfer up to 6 hours of post-Master's work into the program with the approval of the advisor.

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. 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
5428, Peoples and Cultures of Southeast Asia
5440, Global Refugee Crisis
Business Administration
6580, International Finance, Investment, and Commercial Relations
5280, International Business Operations
5480, International Accounting
Economics
6300, International Trade
6301, International Monetary Analysis
History
6111, Readings in European History to 1715
6112, Readings in European History Since 1715
6113, Readings in East Asian History
6114, Readings in Latin American History
6115, Readings in African History
Political Science
6450, Proseminar in Comparative Politics
6451, Seminar in Comparative Politics
6480, Proseminar in International Relations
6481, Seminar in International Relations
6488, Studies in International Relations
Sociology
5410, Comparative Social Structures
Students may complete an additional six hours chosen from the following:
Business Administration
3780, International Marketing
3680, International Management
*** 3580,** International Finance
*** Note:** Students may not count both Bus. Admin. **6580 and 3580.**
Communication
3332, Intercultural Communication
3354, Comparative Telecommunication Systems
3356, International Communication
Criminology and Criminal Justice
3305, Comparative Criminology and Criminal Justice
Economics
4301, International Economic Analysis: Finance
4980, Special Readings
English
4920, Continental Fiction
History
3045, American Foreign and Military Affairs, 1900-Present
3092, Europe 1900-1950: War and Upheaval
3093, Europe, 1950-Present: Peace and Prosperity
3094, France in the Modern Age
3095, Germany in the Modern Age
3097, History of Spain
3101, Modern Japan: 1850 to Present
3102, Modern China: 1800 to Present
3202, History of Latin America: Since 1808
3302, West Africa: Since 1800
4001, Special Readings
Foreign Languages and Literatures
French 4362, Nineteenth-Century French Novel
French 4365, Modern French Poetry
French 4371, Twentieth-Century French Novel
French 4375, Modern French Theatre
German 4315, German Classicism and Romanticism
German 4320, German Realism and Naturalism
German 4345, Modern German Literature
German 4398, Survey of German Literature Part II
Spanish 4310, Spanish Literature from 1898 to 1939
Spanish 4315, Spanish Literature from 1939 to Present
Spanish 4320, Realism and Naturalism in the Nineteenth-Century Spanish Novel
Spanish 4321, Poetry and Drama of the Nineteenth Century
Spanish 4340, Spanish-American Literature of the Nineteenth Century
Spanish 4341, Modernismo
Spanish 4345, Spanish-American Literature of the Twentieth Century
Spanish 4351, Spanish-American Fiction in the Twentieth Century
Spanish 4360, Spanish-American Poetry from Modernismo to the Present
Music
4250, Music of the Romantic Period
4260, Music of the Twentieth Century
Political Science
4510, Comparative Public Policy and Administration
3590, Studies in Comparative Politics

4850, International Law
3860, Studies in War and Peace
3890, Studies in International Relations
6485, Directed Readings and Research in International Relations
Sociology
4342, World Population and Ecology

Graduate Certificate in Logistics and Supply Chain Management
(Refer to the Business Administration section of this bulletin.)

Labor Studies Certificate
The Labor Studies Certificate is designed for students who are interested in a focused specialty in labor studies. The 18 credit hour curriculum consists of six credit courses offered over a three-semester period.
Pol Sci 1450, Introduction to Labor Studies
Pol Sci 3220, Labor Law
Pol Sci 3430, Union Leadership and Administration
Pol Sci 3470, Collective Bargaining
Hist 2219, U.S. Labor History
Econ 3900, Selected Topic in Economics

Latin American Studies Certificate
1) Thirteen credit hours or the equivalent in Spanish.

2) **Either History 1051,** Latin American Civilization, **or Spanish 3211,** Hispanic Culture and Civilization: Spanish America.
3) A total of 12 hours from at least **three** of the following areas:

Area 1: Anthropology
2134, Archaeology of the Inca, Aztec, and Maya

Area 2: Art and Art History
1103, Pre-Columbian Art of Mexico and Central America

Area 3: History
3201, History of Latin America: To 1808
3202, History of Latin America: Since 1808

Area 4: Political Science
2530, Political Systems of South America
2540, Political Systems of Mexico, Central America, and the Caribbean
***3590,** Studies in Comparative Politics

***Note** Students should take Pol Sci 3590 only when the topic is appropriate to Latin America.

Area 5: Spanish
2110, Spanish-American Literature in Translation
3211, Hispanic Culture and Civilization: Spanish America
3281, Introduction to Hispanic Literature: Spanish America
4340, Spanish-American Literature of the Nineteenth Century
4341, Modernismo
4345, Spanish-American Literature of the Twentieth Century
4351, Spanish-American Fiction in the Twentieth Century
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
3940, same as Soc or SW 4940 (3 hours)
Political Science and Social Work 4911, Management Issues in Nonprofit Organizations: Staff Management Issues
Political Science and Social Work 4912, Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations
Political Science and Social Work 4913,
Management Issues in Nonprofit Organizations: Financial Issues
Political Science and Social Work 4960,
American Philanthropy and Nonprofit Resource Development

The remaining 9 hours of electives can be selected from the following courses:

Business Administration
3700, Basic Marketing
3600, Management and Organizational Behavior
3621, Human Resource Management
3611, Advanced Management and Organizational Behavior

Communication
2228, Public Relations Writing (Same as English **3280**)
2230, Small Group Communication
2231, Communication in the Organization
2240, Persuasive Communication
3358, Communication in Public Relations
English
3120, Business Writing
3130, Advanced Business and Technical Writing
Political Science
3420, Public Personnel Management
3440, Public Budgeting
Psychology
2222, Group Processes in Organization
3320, Personnel Assessment
Social Work
3300, Intervention Strategies for Social Work with Organizations and Communities
Sociology
3268, The Sociology of Conflict
3280, Society, Arts and Technology
4312, Sociology of Wealth and Poverty
4314, Social Change
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
2173, Archaeology and Cultures of the Biblical World
3244, Religion, Magic, and Science
Art
***2214**, Early Christian and Byzantine Art
2225, Medieval Art
English
***1130**, Topics in Literature
***2230**, Jewish Literature
***2240**, Literature of the New Testament
***2250**, Literature of the Old Testament
***4940**, Special Topics in Jewish Literature
***4950**, Special Topics in Literature
History
***3082**, History of the Church: The Middle Ages
Music
1030, Music in Religion
Philosophy
1120, Asian Philosophy
1185, Philosophy of Religion
3302, Medieval Philosophy
3385, Issues in Philosophy of Religion
4485, Topics in Philosophy of Religion

Political Science
2610, Ancient and Medieval Political Thought
2650, American Political Thought
Sociology
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
1120, Criminal Law
4300, Communities and Crime
4350, Victimology

Nursing
4770, Topics in Nursing (Women at Risk: Women and Safety)
Psychology
2232, Psychology of Victims
3295, Selected Projects in Field Placement: Helping Victims of Crime (for three credits only toward certificate).
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
4380, The Psychology of Death Dying, and End-of-Life Concerns
Social Work
3601, Abused and Neglected Children
3602, Child Welfare Practicum Seminar
4399, Child Sexual Abuse
Sociology
3250, Sociology of Victimization
3278, Sociology of Law
3375, Social Psychology of Disabilities

Only one of the following highly recommended courses may be counted toward the trauma studies certificate:
Psychology 2161, Helping Relationships
Social Work 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
2230, Crime Prevention
2240, Policing
4340, Race, Crime, and Justice (same as Soc 4340)

Political Science
2400, Public Administration
2420, Introduction to Public Policy
4940, Leadership and Management in Nonprofit Organizations (same as SW 4940 and Soc 4940)

Psychology
2160, Social Psychology (same as Soc 2160)
2230, Psychology of Women
4235, Community Psychology
2245, Abnormal Psychology

Social Work
4940, Leadership and Management in Nonprofit Organizations (same as Pol Sci 4940 and Soc 4940)
4601, Women's Social Issues

Sociology
2102, Women, Gender and Diversity
2160, Social Psychology (same as Psych 2160)
3214, Juvenile Delinquency and Youth Crimes
3268, The Sociology of Conflict
4940, Leadership and Management in Nonprofit Organizations (same as Pol Sci 4940 and SW 4940)
4340 Race, Crime, and Justice (same as CCJ 4340)
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.)

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.

Institute for Women's and Gender Studies

Faculty

Kathy Gentile, Associate Professor of English,* Director
Ph.D., University of Oregon
Yael Even, Professor of Art
Ph.D., Columbia University
Susan Feigenbaum, Professor Economics
Ph.D., University of Wisconsin
Barbara Harbach, Professor of Music
Ph.D., Eastman School of Music
Janet Lauritsen, Professor of Criminology and Criminal Justice
Ph.D., University of Illinois-Urbana
Zuleyma Tang Martinez, Professor of Biology
Ph.D., University of California-Berkeley
Lois Pierce, Professor of Social Work
Ph.D., Washington University
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
Anne Winkler, Professor of Economics
Ph.D., University of Illinois-Urbana
Jeanne Morgan Zarucchi, Professor of French and Art History
Ph.D., Harvard 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 Clarke-Ekong, Associate Professor of Anthropology
Ph.D., University of California; Los Angeles
Sally Barr Ebest, Associate Professor of English
Ph.D., Indiana University
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, Professor of English
Ph.D., Ohio State University
Jody Miller, Associate Professor of Criminology and Criminal Justice
Ph.D., University of Southern California
Joyce Mushaben, Professor of Political Science,
Ph.D., Indiana 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
Ann Steffen, Associate Professor of Psychology
Ph.D., Indiana University
Nanora Sweet, Associate Professor of English,*
Ph.D., University of Michigan
Deborah Cohen, Assistant Professor of History*
Ph.D., University of Chicago
Terri Conley, Assistant Professor of Psychology*
Ph.D., University of Wisconsin-Madison
Farida Jalazai, Assistant Professor of Political Science
Ph.D. University of Buffalo - Suny
Susan Kendig, Assistant Professor, Nursing
MSN,WNP University of Missouri-Kansas City
Tivoli Majors, Assistant Professor of English
Ph.D., University of Texas at Austin
Virginia Navarro, Assistant Professor in Educational Psychology
Ph.D., Washington University
Laura Westhoff, Assistant Professor of History and Education
Ph.D., Washington University
Lori Curtis, Lecturer in Social Work
M.S.W., Washington University
Deborah Henry, Lecturer, Director of Continuing Education and Outreach
Ph.D., University of Minnesota
Margaret Phillips, Lecturer in Foreign Languages
Ph.D., Saint Louis University

*Joint appointees in Women's and Gender Studies

The Institute for Women's and Gender Studies (IWGS) 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 affiliated with IWGS believe in cooperative education. Classes promote the exchange of knowledge among women and men of different classes, races, sexual orientations, and social conditions.
The Women's and Gender Studies program offers an undergraduate certificate that 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 women's roles in society, and to facilitate career goals that focus on 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.

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 (211 Clark Hall) 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.

Graduate Certificate Requirements
Students interested in pursuing a graduate certificate must provide evidence of having completed a baccalaureate degree (minimum GPA: 2.75). We request that you submit official transcripts of all previous undergraduate/graduate work, along with two letters of recommendation. If you are not currently enrolled at UM-St. Louis, you must apply through the Graduate School. Applications are available online at www.umsl.edu. The Graduate Certificate is awarded following completion of 18 hours of Women's and Gender Studies courses, at least six hours of which must be taken at the 5000 level or above (some 4000 level courses may also be approved for graduate credit). Students may "customize" their programs by taking up to (but no more than) six hours as Directed Study. Internships are also available at the graduate level.

Procedures for Post BA/BS Students
Individuals who possess a bachelor's degree from any university or college or who are enrolled in a departmental graduate program at UM-St. Louis are eligible to pursue either an undergraduate Certificate (if they lack previous gender studies background), OR they may apply for admission to the graduate Certificate program. Students not currently enrolled at UM-St. Louis should contact the IWGS office to obtain admissions materials for unclassified students and a listing of current courses offered. Once enrolled, students are requested to fill out a Women's Studies Certificate form available from the Women's Studies office. Registration as a Certificate candidate will entitle you to receive program announcements and the newsletter.

Institute for Women's and Gender Studies Certificate-Undergraduate

Requirements
A student must maintain a minimum GPA of 2.75 for admission and complete 18 hours in Women's and Gender Studies courses, including:

IWGS (ID) 2102, Women, Gender, and Diversity **as well as at least one** 4000-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.

Students opting to specialize in a specific "cluster" area will choose four additional courses spread across at least two disciplines, directly from that set of cluster classes.

The following classes apply to all undergraduate cluster listings:

IWGS 4352 Independent Study in Women's and Gender Studies
IWGS 4353 Internship in Women's and Gender Studies

Honors courses, where appropriate, can also be applied towards Certificate credit in a given cluster, contingent upon consent of the Instructor and approval by the IWGS Director.

Cluster One — Gender, Language And Identity
Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity

ELECTIVES: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above)

Anthro 1041	Sex and Gender Across Cultures
Anthro 3250	American Folklore
Anth/Soc 3286	Society, Arts, and Popular Culture
Comm 3340	Male/Female Communication - [designated sections only]
English 1150	Images of the Elderly in Film
English 3800	Topics of Women in Literature
English 4930	Studies in Women and Literature
English 4130	Advanced Poetry Writing [designated sections only]
English 4800	Linguistics [designated sections only]
English 4850	Topics in the Teaching of Writing- [designated sections only]
English 4170	Reading and Writing Autobiography
History 3032	History of Women in Comparative Cultures
Psych 2230	Psychology of Women
Psych 2140	Female Sexuality
Psych 3345	Lesbian Psychology
Soc 2103	Sex Roles in Contemporary Society
Soc 3224	Marriage and Family
Span 4399	Seminar on Hispanic Literature- [designated sections only]

Cluster Two — Gender, Theory And The Arts
Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000-level or above)

Anthro 1021	The Body in Culture
Anthro 1041	Sex and Gender Across Cultures
Anthro 1091	Intro Topics in Anthropology - (designated sections only)
Anthro/Soc 3286	Society, Arts & Pop Culture
Art Hist 3376	Women in the Visual Arts
Art Hist 3396	The Nude in Art
Engl 3800	Topics in Women and Literature
Engl 4930	Studies in Women and Literature
Engl 5351	Theories of Feminism
Phil 2253	Philosophy & Feminism
Phil 4452	Feminism and Science
Phil 4453	Feminist Ethical Theory
Pol Sci 3680	Feminist Political Theory
Music 1080	Women in Music

Cluster Three – Gender, Health, Aging And Science
Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above)

Geron 5440	Cultural Aspects of Aging
Geron/Soc 5449	Issues in Retirement
Geron/Psych 4376	Mental Health and Aging
Geron/Soc 4361	Social Gerontology (special consent)
Pol Sci 3570	Gender, Race and Public Policy
Psych 2140	Female Sexuality
Psych 4373	Psychology of Aging (special consent)
Psych 2230	Psychology of Women
Psych 2232	Psychology of Victims
Nurs 4765	Topics in Women's Health
Phil 4452	Feminism and Science
Phil 4453	Feminist Ethical Theory
SW 4950	Seminar in Social Work Issues [special sections only]
IWGS (ID) 5350	Special Topics: Women in Health & Science

Cluster Four — Gender, Ethnicity And Globalization
Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above):

Anthro 1041	Sex and gender Across Cultures
Anthro 2123	Cultures of Oceania
Anthro 3235	Women in Sub-Saharan Africa
Comm 3332	Intercultural Communication [special consent]
English 3800	Topics in Women and Literature
English 4930	Studies in Women and Literature
Econ 1001	Principles of Microeconomics: How We Live [specified sections only]
Econ 2410	Work, Families, and Public Policy
Hist 3032	History of Women in Comparative Cultures
Hist 3053	African-American Women's History
Pol Sc 1550	Women and Politics in the Developing World
Pol Sc 3570	Gender, Race, and Public Policy
Pol Sc 3590	Politics, Leadership, and the Global Gender Gap
Span 4399	Seminar on Hispanic Literature- [specified sections only]
SW 4950	Special Topics in Social Work Issues [specified sections only]
SW 4100	Diversity and Social Justice
Soc 4360	Sociology of Minority Groups

Cluster Five – Gender, Work And Public Policy
Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above)

CCJ 4325	Gender, Crime and Justice
Econ 1001	Principles of Microeconomics: How We Live [specified sections only]
Econ 2410	Work, Families and Public Policy
Hist 2219	Labor History
Pol Sc 2290	Women and the Law
Pol Sc 2510	Gender, Race and Public Policy
Pol Sc 3460	Politics of Poverty and Welfare
SW 4601	Women's Social Issues
SW 4100	Diversity and Social Justice
SW 5300	Community Practice and Social Change
Phil 4452	Feminism and Science
Soc 4360	Sociology of Minority Groups
Soc 5444	Social Policy and Community Planning

Cluster Six —Gender, Organizations & Leadership:
Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity

Electives: students must complete 15 hours based on any combination of these Courses (special consent required for courses at the 5000 level or above)

Econ 2410	Work, Families and Public Policy
Hist 2219	Labor History
Hist 3031	History of Women in the United States
Hist 3053	African-American Women's History
Pol Sc 2290	Women & the Law
Pol Sc 2380	Women in US Politics

Pol Sc 3590	Women, Leadership & Global Gender Gap
Pol Sc 3680	Feminist Political Theory
Pol Sc 4940	Leadership & Management in Non-Profit Organizations
Pol Sc 3430	Union Leadership & Administration (special consent)
Phil 4453	Feminist Ethical Theory
Phil 4452	Feminism and Science
IWGS 5350	Special Topics in Gender, Organization and Leadership

Course Descriptions

1220 Special Topics in Gerontology (1-3)
(Same as Ger 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.

2102 Introduction to Women's Studies: Gender and Diversity (3)
(Same as Psy 2102 and Soc 2102).
This core course is required for all Women's and Gender Studies Certificate earners, This class introduces students to the cultural, political and historical issues of concern to women and familiarizes students with the diversity of women's experiences across lines of social class, race, sexuality, and culture. It includes representations and women's contributions to multiple disciplines including anthropology, history, philosophy, politics, psychology and sociology.

2103 Gender Roles in Society (3)
Prerequisites: Soc 1010 or IWGS 2102 or consent of instructor. (Same as Soc 2103) The study of social processes through which gender roles are developed and acquired; the impact of gender roles on personal identity and social conduct; the relationship between gender roles and social inequality; and individual and social consequences of changing gender roles in contemporary society.

2150 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, history, 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.

3350 Special Topics in Women's and Gender Studies (3)
Prerequisites: WGS 2102 or consent of instructor. Special Topics in Women's and Gender Studies. Topics vary by semester.

3352 Independent Studies in Women's and Gender Studies (1-3)
Prerequisite: Junior standing; two courses in Women's and Gender Studies, including 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.

4350 Special Topics in Women's and Gender Studies* (3)
Prerequisites: IWGS 2102 or consent of instructor. Special topics examined from a gender perspective in the fields of Anthropology, Art History, Criminology, Economics, English, Foreign Language, History, Philosophy, Political Science, Psychology, Social Work, Sociology, Business, or others. Topics and departments vary by semester.

4352 Independent Study in Women's and Gender Studies (1-3)
Prerequisites: IWGS 2102 or consent of instructor. Independent, directed readings and research in a Women and Gender related topic, to be determined in consultation with instructor.

4353 Internship in Women's and Gender Studies (3)
Prerequisite: 90 hours. 2.5 GPA, 12 IWGS 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.

5350 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, Social Sciences depending on the topic.

5351 Theories of Feminism (3)
Prerequisites: Junior standing, IWGS 2102 or consent of instructor. An analysis of contemporary theories of feminism, including liberal, racial, socialist, and women-of-color perspectives, and an exploration of underpinnings of feminist theory in major systems of thought.

5450 Special Topics in Women's and Gender Studies (3)
Prerequisites: Graduate standing or consent of instructor. Special topics at the Graduate level examined from a gender perspective in the field of Anthropology, Art History, Criminology, Economics, English, Foreign Language, History, Philosophy, Political Science, Psychology, Social Work, Sociology, Business, or others. Topics and departments vary by semester.

6401 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.

6450 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.

6452 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.

6353 Graduate Internship in Women's and Gender Studies (1-6)
Prerequisites: Graduate standing and consent of Director. Provides an opportunity for the Graduate Women's and Gender Studies student to acquire "real world" experience working in a non-profit, political, economic, or social service organization with a gender focus.

*** Each semester the director of the Institute of Womens' and Gender Studies identifies courses being offered by other departments and they are cross listed with Women and Gender Studies courses under the special topic course title. Consult the course schedule each semester for a list of these courses.**

Pre-Professional Programs

Students at the University of Missouri-St. Louis may develop pre-professional 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 which provide strong undergraduate preparation for may select a major field of study and related area courses graduate professional study.

Students should seek pre-professional 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 g information on pre-professional study at UM-St. Louis is provided to give students minimal guidelines and assistance in planning a program.

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 is accepted 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 (314) 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.

All three programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

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
1800, Analytic Geometry and Calculus I
1900, Analytic Geometry and Calculus II
2000, Analytic Geometry and Calculus III
2020, Introduction to Differential Equations
Chemistry
1111, Introductory Chemistry I
1121, Introductory Chemistry II
Physics
2111, Physics: Mechanics and Heat

2112, Physics: Electricity, Magnetism, and Optics
Introductory Engineering
Engineering
2310, Statics
2320, Dynamics
Humanities, Social Sciences, and English Composition
English
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.
* A total of three humanities and three social science courses are required. At least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.

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, (314) 516-6800.

Pre-Journalism
Students wishing to pursue a journalism degree should review the entrance requirements of the schools they would like to attend for information on suggested pre-journalism courses of study.

Students seeking a 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 to include required courses listed below.**

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 UMC campus. Advanced Placement (AP) English Composition credit will be accepted for incoming freshmen admitted to UMC fall semester 2002 and after.

Math: Students must complete College Algebra with a grade C- range or higher, or have a minimum ACT math score of 26 or a minimum SAT score of 600.

Foreign Languages: Four years of high school work in one foreign language or 12-13 hours of college work in one foreign language.

Biological, Mathematical, Physical Science: Math 1310 – Elementary Statistics **plus** six hours from biological anthropology, biology, chemistry, astronomy, geology, physics, above college algebra level math or computer science.* One course must include a lab. ***Please note:*** College Algebra is the prerequisite course for statistics at UMC and UM-St. Louis.

* Computer Science 1250 – Introduction to Computing.

Social Science: Twelve hours are required. American History or American Government/Introduction to Political Science, **plus** Microeconomics **plus** six hours to include a behavioral science (anthropology, but not Anthropology 1005, psychology or sociology). ***Please note:*** Pre-advertising majors must complete both microeconomics and macroeconomics.

Humanistic Studies: Nine hours are required to include three hours in American or British literature, **plus** two courses from any of the following areas: history or appreciation of art or music, humanities, philosophy, religious studies, non-U.S. civilization or classical studies, history or appreciation of communication, film or theatre.

In addition, word processing skills are required (40 words per minute). A minimum TOEFL score of 600 is required for students whose native language is not English.

Nontransferable courses at the School of Journalism include: basic military science, basic physical education, word processing or computer applications, typing or practical arts/vocational technical education courses, photography, public relations, advertising, journalism or mass communication, orientation, professional skills, college preparatory, and no more than three hours maximum of applied music, dance, acting or studio art.

Students are required to take three journalism courses (minimum C- range grades) at UMC prior to admission to the school: J1100 – Principle American Journalism, J2100 – News, and J2000 – Cross Culture Journalism. The English composition requirement must be satisfied prior to enrollment in J2000 and J2100. Completion of 15 hours and a minimum 2.75 GPA are required for J1100. A minimum 2.8 GPA is required for J2100 and J2000.

The School computes the grade point average for transfer students based on courses accepted toward admission until a Mizzou GPA is established. The School uses the Mizzou

GPA for enrollment in the preliminary journalism courses and for acceptance to the sequences.

Admission is by sequence. Sequences offered are Advertising, Broadcast News, Magazine, News-Editorial and Photojournalism.

The School accepts credit through the College-Level Examination Program (CLEP – subject exams only), Advanced Placement Program (AP), and the International Baccalaureate (IB) program. Regulations apply.

Credit should be referred for review;
Please send official transcripts to:
Admissions, 230 Jesse Hall, Columbia, MO 65211.

For advisement and information, contact the Office of Undergraduate Student Affairs in the College of Arts and Sciences, 303 Lucas Hall, 314-516-5501.

Pre-Law
Students planning to attend law school must pursue an undergraduate degree of their choice. There is no such thing as a pre-law major. Law schools encourage students to pursue a course of study that includes a broad liberal arts background. The pre-law 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. Other recommended courses include logic, general psychology, into sociology, ethics, theories of justice, and courses that promote cultural awareness.

The University of Missouri has law schools at Columbia and Kansas City. University of Missouri-St. Louis students may seek assistance in planning an undergraduate program, preparing for the LSAT, and applying to law school in the office of the pre-law adviser. Students should contact the pre-law adviser through the College of Arts and Sciences, 303 Lucas Hall, (314) 516-5501, early in their undergraduate studies.

Pre-Health Sciences
Students wishing to enter medical, dental, optometry, or veterinary medicine schools should pursue B.A. or B.S. degrees with majors in the disciplines of their choice, but should take whatever additional courses may be necessary as prerequisites for admission to the professional school.

Since 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)**
Phone: 1-202-828-0416; Website: www.aamc.org
American Dental Education Association Official Guide to Dental Schools
Phone: 1-202-289-7201; Website:
www.aads.jhu.edu/links.html
Schools and Colleges of Optometry Admission Requirements
Phone: 1-301-231-5944; Website: www.opted.org
Pharmacy School Admission Requirements
Phone: 1-703-739-2330; Website:www.aacp.org
Veterinary Medical School Admission Requirements in the United States and Canada
Phone: 1-202-371-9195; Website:
www.aavmc.org/preref.htm
****A copy of the* MSAR *is also available at the reference desk of the Thomas Jefferson Library.***

Suggested Courses (Pre-Med, Pre-Dental, Pre-Vet)
Many medical schools recommend the following undergraduate courses:

Biology: Biology 1811, Introductory Biology: From Molecules to Organisms; Biology 1821, Introductory Biology: Organisms and the Environment; Biology 2012, Genetics; and additional courses in molecular and/or cell biology.

Chemistry: Chemistry 1111, Introductory Chemistry I; Chemistry 1121, Introductory Chemistry II; Chemistry 2612, Organic Chemistry I; 2622, Organic Chemistry II; Chemistry 2633, Organic Chemistry Lab; and additional courses in organic chemistry and quantitative analysis. (Biochemistry is recommended.)

Mathematics: Students should take courses at least through calculus, as appropriate for the major degree, i.e., Math 1800, Analytical Geometry & Calculus I, or Math 1100, Basic Calculus. (Consult with the Pre-Health Sciences advisor.)

Physics: 8 credit hours or as appropriate for the degree chosen, i.e. Physics 1011 & 1012-Basic Physics, OR Physics 2111, Physics: Mechanics and Heat and Physics 2112, Physics: Electricity, Magnetism and Optics. (Consult with the Pre-Health and Sciences advisor.)

Successful completion of these recommended courses also helps students prepare for required standardized exams.

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, Chemistry 1111 and

1112, Introductory Chemistry I and II should be taken 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 pre-med students; the Medical College Admission Test or Graduate Record Exam for pre-vet students; the Dental Aptitude Test for pre-dental students; the Optometry Admission Test for pre-optometry students; and the Pharmacy College Admission Test (if required) for pre-pharmacy students. (Note: pre-vet students should consult with their intended veterinary colleges for appropriate test information.)

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. Nursing, laboratory technology, and allied health may be considered as alternative fields.

For more information, testing dates, or pre-health science advising, contact the pre-health professions adviser through the College of Arts and Sciences, 303 Lucas Hall, (314) 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 College of Optometry. It is one of only 16 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 three distinct programs available to UM-St. Louis pre-optometry students:

The Department of Biology and the Department of Physics and Astronomy sponsor **3+4 Programs** for the UM-St. Louis College of Optometry. In these programs, a student may be admitted to the College of Optometry after completing three years (90 semester hours) of study in their respective majors and successful completion of the Optometry Admission Test. Note: Math 1800, Analytical Geometry and Calculus I must be taken in the first semester. 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 or physics 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 College of Optometry. 3) Up to 6 hours from the College of Optometry may be substituted for undergraduate degree in Biology with approval of the Department of Biology. For more information, contact the Department of Biology, (314) 516-6200. 4) 12 hours in Optometry are required to complete the B.S. in Physics degree. For more information, call the Department of Physics and Astronomy at (314) 516-5931.

The Pierre Laclede Honors College and the College 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 27 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, (314) 516-6870.

For more information on admission requirements for the College of Optometry, please refer to the Optometry section of this Bulletin.

Pre-Pharmacy
In general, a pharmacy program may consist of 1-3 years of pre-professional study followed by 4-5 years in a professional program. Some institutions, however, offer the entire program at the pharmacy college or school. *Since entrance requirements vary, students should consult the catalog and/or web site of the college or school to which they want to apply.* Missouri has two pharmacy schools: St. Louis College of Pharmacy, and University of Missouri-Kansas City School of Pharmacy. Beginning Fall 2005, the metropolitan area also includes Southern Illinois University Edwardsville School of Pharmacy. Internet links for these and other pharmacy programs in the United States, Canada and abroad can be found at the web site for the American Association of Pharmacy Colleges, www.aacp.org.

Before taking any courses for pre-pharmacy, UM-St. Louis students should contact the College of Arts and Sciences, 303 Lucas Hall, for pre-pharmacy information. It is important that students take the correct courses for the pharmacy programs they are seeking. *Generally*, science admission requirements may include *some or all* of the courses listed below (*and possibly other courses*):

Bio 1811-Introductory Biology: From Molecules to Organisms
Bio 1821-Introductory Biology: Organisms and the Environment
Bio 1131-Human Physiology and Anatomy I
Bio 1141-Human Physiology and Anatomy II
Chem 1111-Introductory to Chemistry I
Chem 1121-Introductory to Chemistry II
Chem 2612-Organic Chemistry I
Chem 2622-Organic Chemistry II
Chem 2633-Organic chemistry Laboratory
Math 1800-Analytical Geometry and Calculus I
Physics 1011-Basic Physics

Physics 1012-Basic Physics

Usually, pre-pharmacy requirements also include courses in English composition, humanities, social and behavioral sciences. The specific pharmacy school or college determines these requirements. In addition, many pharmacy institutions require applicants to take the Pharmacy College Admission Test (PCAT). Detailed information about the PCAT is available online at www.pcatweb.info. For additional information about application deadlines and procedures, gpa requirements, and letters of recommendation, students should consult the catalogs and/or web sites for the programs they intend to apply.

Pre-Pharmacy advising and information is available through the Office of Undergraduate Student Affairs in the College of Arts and Sciences, 303 Lucas Hall, 314-516-5501.

College of Business Administration

Faculty

Keith Womer, Professor*, Dean
Ph.D. Pennsylvania State University
John J. Anderson, C.P.A., C.M.A., Professor, Associate Dean Emeritus
Ph.D., University of Wisconsin-Madison
David R. Ganz, Assistant Professor; Associate Dean Emeritus 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 Provost for Research
Ph.D., University of Nebraska
Howard B. Baltz, Professor Emeritus
Ph.D., Oklahoma State University
Allan Bird, Professor*, Director, International Business Institute
Ph.D., University of Oregon
James A. Breaugh, Professor*; Coordinator of Management
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
Douglas E. Durand, Professor, Dean Emeritus
Ph.D., Washington University
Thomas H. Eyssell, Professor*, Director of Graduate Studies in Business
Ph.D., Texas A & M
Hung-Gay Fung, Professor *
Ph.D., Georgia State University
Michael M. Harris, Professor*
Ph.D., University of Illinois-Chicago
Marius A. Janson, Professor*
Ph.D., University of Minnesota
Kailash Joshi, Professor*
Ph.D., Indiana University
Mary Lacity, Professor*
Ph.D., University of Houston
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, Curator Professor*
Ph.D., Indiana University
David Ronen, Professor*
Ph.D., Ohio State University
Rajiv Sabherwal, Curator 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
Deborah B. Balser, Associate Professor*
Ph.D., Cornell University
Donald H. Driemeier, Associate Professor Emeritus; Dean Emeritus
D.B.A., Washington University
Michael T. Elliott, Associate Professor*
D.B.A., Mississippi State University
Timothy A. Farmer, C.P.A., Associate Professor*
Ph.D., Ohio State University
Greg Geisler, Associate Professor*
Ph.D., University of North Carolina at Chapel Hill
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 Emeritus
Ph.D., University of Iowa
Donald R. Kummer, Associate Professor*
Ph.D., University of Oregon
Haim Mano, Associate Professor*; Coordinator of Marketing
Ph.D., University of Chicago
Stephen R. Moehrle, C.P.A., Associate Professor*
Ph.D., Indiana University
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*; Coordinator of Information Systems
Ph.D., University of Houston
James M. Krueger, C.P.A., Assistant Professor*; Vice Chancellor for Managerial & Technological Services
D.B.A., Indiana University
Natalia Mintchik, Assistant Professor*
Ph.D., University of North Texas, Denton
Dinesh Mirchandani, Assistant Professor*
Ph.D., University of Kentucky
Jennifer Reynolds-Moehrle, C.P.A., Assistant Professor*
Ph.D., Indiana University

Joseph Rottman, Assistant Professor*
Ph.D., Washington University
Mahesh Shankarmahesh, Assistant Professor*
Ph.D., Old Dominion University
Gregory E. Sierra, Assistant Professor*
Ph.D., Washington University in St. Louis
Michael J. Stevens, Assistant Professor*
Ph.D., Purdue University
Donald C. Sweeney II, Adjunct Professor; Associate Director, Center for Transportation Studies
Ph.D., Washington University
Gaiyan Zhang, Assistant Professor*
Ph.D., University of California, Irvine
David A. Bird, Instructor Emeritus
M.S., Washington University
Lindell P. Chew, Instructor
M.B.A., University of Missouri-Columbia
John Cox, Instructor Emeritus
M.A., University of Missouri-Columbia
Ottilia Voegtli, Instructor Emeritus
M.B.A., University of Missouri-St. Louis
Wayne W. Winter, Instructor; Assistant Coordinator in Legal and Business Studies
L.L.M., Washington University
Robert J. Banis, Lecturer
Ph.D., North Carolina State University at Raleigh
Michael Brown, Lecturer
M.B.A., Walsh College of Accounting & Business Administration
Joy Dakich, Lecturer
M.A., University of Missouri-St. Louis
Peggy A. Lambing, Lecturer
M.B.A., University of Missouri-St. Louis
William R. Link, C.P.A., Lecturer
M.B.A., University of Missouri-Columbia
Kenneth W. Locke, Lecturer
D.B.A., Indiana University-Bloomington
Gwen Moore, Lecturer
M.B.A., Washington University
Johnna Murray, Lecturer
MAcc., University of Missouri-St. Louis
Rhonda Tenkku, Lecturer
M.B.A., University of Missouri-St. Louis
James Tiburzi, Lecturer
M.B.A., University of Illinois-Urbana
Elizabeth W. Vining, Lecturer
M.B.A., University of Missouri-St. Louis

*member of Graduate Faculty

History
The University of Missouri - St. Louis College of Business Administration was established in 1967, and was accredited by AACSB-International six years later, the shortest time on record for any school to receive accreditation of its business program. AACSB-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 College of Business Administration is committed to:

- Provide students a high quality business education at the undergraduate and graduate levels.
- Conducting and disseminating basic and applied research that advances our understanding of issues relevant to the effective administration of organizations.
- Creating educational value by delivering innovative, cutting-edge curriculum, using both traditional and nontraditional delivery methods.
- Serving the University, the St. Louis business and not-for-profit communities, the citizens of Missouri, and society at large.

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 Information Systems

Undergraduate Minors
- Accounting
- Employee Training and Development
- Finance
- General Business
- Information Systems
- International Business
- Logistics and Operations Management
- Management
- 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
Marketing
Operations Management

Master of Science in Information Systems

Ph.D. in Business Administration
Information Systems
Logistics and Supply Chain Management

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 Logistics and Supply Chain Management
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 1100, Freshmen Composition (communicating skill goal)
One additional "communicating skills goal" course
Mathematics 1030, College Algebra (math/science knowledge goal)
Mathematics 1100, Basic Calculus (math/science knowledge goal)
Mathematics 1105, Basic Probability and Statistics (math/science knowledge goal)
Economics 1001, Principles of Microeconomics (valuing skill goal and social science knowledge goal)
Economics 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)
1800, Computers and Information Systems (managing information skill goal)
2400, Fundamentals of Financial Accounting
2410, Managerial Accounting
2900, Legal Environment of Business

Upper Division Requirements–all degrees–all students

Upper Division Non-Business Requirement

English 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)
3300, Business Statistics
3320, Introduction to Operations Management
3500, Financial Management
3600, Management and Organizational Behavior
3700, Basic Marketing
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 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 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 4219); 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 the sending institution 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

To foster excellence in accountancy by:

1) Providing a rigorous educational experience as a framework for lifelong learning to individuals of diverse academic backgrounds

2) Creating, expanding and disseminating knowledge through scholarly activities

3) Serving the academic, professional and business communities

Lower or Upper Division Non Accounting Courses Required
One of:
Communication 1030, Interpersonal Communication I
or
Communication 1040, Introduction to Public Speaking
or
Business Administration 3100, Contemporary Business Communications
and one of:
Philosophy 1130, Approaches to Ethics
or
Philosophy 2254, Business Ethics

Upper Division Accounting Courses Required

Business Administration (BA)
3401, Financial Accounting and Reporting I
3402, Financial Accounting and Reporting II
3411, Cost Accounting
3441, Income Taxes
and one of either
3421, Accounting Information Systems and Spreadsheet Applications
or
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)
3501, Financial Policies
3502, Treasury Management
3503, Computer Applications in Finance
3520, Investments
3521, Financial Risk Management
3522, Security Analysis
3525, Practicum in Investments
3540, Financial Services Industry and Instruments
3541, Commercial Bank Management
3542, Principles of Real Estate
3560, Practice of Personal Financial Planning
3561, Principles of Insurance
3562, Life Insurance and Employee Benefits
3563, Retirement Planning and Employee Benefits
3564, Estate Planning and Trusts
3580, International Corporate Finance
3582, International Investment
3595, Business Administration Problems – Finance
3598, Business Administration Seminar – Finance
3599, Independent Study (approved)

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.
Twelve (12) hours are required of all individuals seeking an emphasis in International Business:

Two of the following courses:

Business Administration (BA)
3580, International Finance
3682, Managing the Global Workforce
3780, International Marketing

Plus two additional approved international business course other than BA 3289, the international business practicum. (Lists of approved courses are available in the CoBA student advising office.) 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 placement test.

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:

Business Administration (BA)
3395, Business Administration Problems—Logistics and Operations Management
3398, Business Administration Seminar—Logistics and Operations Management
3399, Independent Study (approved)
3843, Decision Support Systems
4312, Business Forecasting
4314, Multivariate Analysis
4321, Production and Operations Management
4322, Lean Production in Manufacturing and Service Operations
4324, Service Operations Management
4326, Quality Assurance in Business
4330, Business Logistics Systems
4350, Operations Research
4354, Operations Research II
4381, International Logistics & Operations Mgmt

At most, one of the following courses may be counted toward the LOM emphasis area.

Business Administration (BA)
3806, Managerial Applications of Object-Oriented Programming I (programming)
3842, Management of Telecommunications
3844, End-User Computing for Business Applications (programming)

Emphasis in Management
The study of management focuses on the behavior of individuals and groups in an organizational setting.

Students must complete BA 3611, Advanced Management and Organizational Behavior, plus 3 courses selected from

Business Administration (BA)
3289, Practicum in International Business
3621, Human Resource Management
3622, Industrial and Labor Relations
3623, Industrial and Organizational Psychology (same as Psychology 3318)
3624, Employee Training and Development
3680, International Management
3682, Managing the Global Workforce
3684, The Japanese Management System
3685, Role of the Global Corporation
3695, Business Administration Problems—Management and Organizational Behavior
3698, Business Administration Seminar—Management and Organizational Behavior
3699, Independent Study (approved)
4614, Entrepreneurship/Small Business Management
4689, International Strategic Management

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 5 upper division marketing courses to include the capstone course, BA 4700, Marketing Management.

Bachelor of Science in Information Systems Degree

Mission
The Information Systems (IS) area endeavors to prepare high-potential students of diverse backgrounds for successful careers in the IS profession. Careers in IS 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 IS 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)
3805, COBOL Programming
3815, File Management
Track B—Business Administration (BA)
3806, Managerial Applications of Object- Oriented Programming I
3816, Managerial Applications of Object Oriented Programming II

Analysis and Design—2 courses—Business Administration (BA)
3810, Information Systems Analysis
4850, Information Systems Design

Database—1 course—Business Administration (BA)
3845, Database Management Systems

Students must complete 2 courses (at least 1 3000-level business [BA] course) from **Business Administration (BA)**
3421, Accounting Information Systems and Spreadsheet Applications (but not with 3502)
3502, Computer Applications in Finance (but not with 3421)
3805, COBOL Programming—Track B students only
3806, Managerial Applications of Object-Oriented Programming I—Track A students only
3815, File Management—Track B students only
3816, Managerial Applications of Object-Oriented Programming II—Track A students only
3841, The Management of Information Systems
3842, Management of Telecommunications
3843, Decision Support Systems
3844, End-User Computing for Business Applications
3895, Business Administration Problems—Management Information Systems
3898, Business Administration Seminar—Management Information Systems
3899, Independent Study (approved)

Computer Science (CS)
2700, Computer Systems: Architecture and Organization
2710, Computer Systems: Programming
4300, Introduction to Artificial Intelligence
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)
1800, Computers and Information Systems
2400, Fundamentals of Financial Accounting
2900, Legal Environment of Business
3320, Introduction to Operations Management
3500, Financial Management
3600, Management and Organizational Behavior
3700, Basic Marketing

Minor in Accounting
Available to all students except those pursuing the Bachelor of Science in Accounting degree. Students must complete
Business Administration (BA)
2400, Fundamentals of Financial Accounting
2410, Managerial Accounting
plus any three upper division accounting electives

Minor in Finance
Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete
Business Administration (BA)
3500, Financial Management
plus any four upper division finance electives

Minor in Information Systems
Available to all students except those pursuing the Bachelor of Science in Information Systems degree. Students must complete
Business Administration (BA)
1800, Computers and Information Systems
One programming course selected from
Business Administration (BA)
3805, COBOL Programming
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)
3810, Information Systems Analysis
3845, Database Management Systems
or a 3000-level course

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)
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)
3806, Managerial Applications of Object-Oriented Programming I
3844, End-User Computing for Business Applications

Minor in Management
Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete
Business Administration (BA)
3600, Management and Organizational Behavior
3611, Advanced Management and Organizational Behavior
plus any 3 upper division management and organizational behavior electives

Minor in Marketing
Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete
Business Administration (BA)
3700, Basic Marketing
plus any 4 additional upper division marketing electives

Minor in Transportation Studies
Available to all students. (For those pursuing the BSBA degree, this will result in an emphasis in marketing if the marketing capstone course, BA 4700, Marketing Management, is taken in addition to the requirements listed below. Such individuals will have completed both BA 3320, Introduction to Operations Management, and BA 3700, Basic Marketing.)

Students must complete five courses to include:

Business Administration (BA)
3770 Introduction to Transportation
3771 Traffic and Transportation Management
Plus three additional courses selected from:

Business Administration (BA)
3090 Internship in Business Administration
3198 Business Administration Seminar: Domestic Transportation
3198 Business Administration Seminar: Railroads in American Life

3198 Business Administration Seminar: Aviation in American Life
3198 Business Administration Seminar: Economics of Transportation
3199 Independent Study*
3320 Introduction to Operations Management
3700 Basic Marketing

*No more than one approved independent study course may count towards the minor.

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.mba.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 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 three formats: the evening MBA program, the Internet-Based Professional MBA program and the International MBA program. All are fully accredited by AACSB International – The Association to Advance Collegiate Schools of Business, 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 logistics and operations management. 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 3150, 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 3150, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences
BA 5000, Economics for Managers
BA 5100, Managerial Communication
BA 5219, Strategy Formulation and Implementation
LOM 5300, Statistical Analysis for Management Decisions
BA 5900, Law, Ethics, and Business

Core Requirements – 18 hours
ACCT 5400, Financial and Managerial Accounting
FIN 6500, Financial Management
MGMT 5600, Organizational Behavior and Administrative Processes
MKTG 5700, Contemporary Marketing Concepts
IS 6810, Management Information Systems
LOM 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: ACCT 5401, Financial Reporting and Analysis
Finance: FIN 6500, Any approved graduate level course beyond **FIN 6500**
Management: MGMT: Any approved graduate level course beyond **MGMT 5600**
Marketing: Any approved graduate level course beyond **MKT 5700**
Information Systems: Any approved graduate level course beyond **IS 6800**
Logistics and Operations Management: Any approved graduate level course beyond **LOM 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 undergraduate 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, Logistics and Supply Chain Management, 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 5400 and including ACCT 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 waived. Students must complete at least 39 credit hours to earn the MBA.

Emphasis in Finance
MBA students seeking an Emphasis in Finance must complete a minimum of 12 hours of Finance electives beyond FIN 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 least 39 credit hours to earn the MBA degree.

Emphasis in Logistics and Supply Chain Management
MBA students seeking an Emphasis in Logistics & Supply Chain Management must complete 10 hours from approved courses in addition to LOM 5300 and LOM 5320. Up to 3 hours may be transferred from another AACSB-accredited graduate program at the discretion of the Area Coordinator of the LOM Area. 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.

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 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 5621, Managing Human Resources + 3 courses selected from MGMT 5622, 5623, 5624, 5625.

Emphasis in Marketing
MBA students seeking an Emphasis in Marketing must complete a minimum of 12 hours of Marketing electives beyond MKTG 5700, including MKTG 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 hour waived. Students must complete at least 39 hours credit hours to earn the MBA degree.

Emphasis in Operations Management
MBA students seeking an Emphasis in Operations Management must complete 9 hours from approved courses in addition to LOM 5300 and LOM 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.

A student cannot receive an emphasis in both Operations Management and Logistics & Supply Chain Management for the same set of courses. An overlap of up to 3 credit hours out of the 9 hours required is allowed.

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 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:

ACCT 5401, Financial Reporting and Analysis
FIN 6590, Seminar in Finance
MGMT 5695, Seminar in Management
MKTG 5795, Seminar in Marketing
IS 6891, Seminar in Management Information Systems
LOM 6395, Seminar in Logistics and Operations Management

International MBA Program
An International version of the MBA program also exists as an alternative to the evening MBA program. This program is a two-year, full-time program. Students take courses the first year outside the U.S. at a partner university and then take courses the second year on the University of Missouri – St. Louis campus.

International MBA Program Degree Requirements
In addition to the requirements of the evening MBA program, the International MBA program requires an internship (outside the U.S. for Americans and in the U.S. for all others). The program also requires a proficiency in at least one major commercial language in addition to English as a prerequisite. (All coursework is in English). All participants in the International MBA program must meet the same General and Core Requirements as those in the evening MBA program.

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 6800 and IS 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 6800 and IS 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 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 LOM 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 5900, Law, Ethics, and Business
ACCT 5400, Financial and Managerial Accounting
FIN 6500, Financial Management
MGMT 5600, Organizational Behavior and Administrative Processes
MKTG 5700, Contemporary Marketing Concepts
LOM 5320, Production and Operations Management
BA 5219, Strategy Formulation and Implementation

Students who have not met this prerequisite must complete BA 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 6800, Management Information Systems
IS 6805, Applications of Programming for Business Solutions
IS 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 5301, Introduction to Geographic Information Systems
IS 6806, Managerial Applications of Object-Oriented Technologies
IS 6807, Business Programming and File Systems
IS 6808, Internet Programming for Business
IS 6891, Seminar in Management Information Systems
IS 6892, Seminar in Current Management Information Systems Topics
IS 6838, Business Process Design
IS 6881, Management of Transnational Information Systems
IS 6831, Advanced MIS Applications
IS 6837, Management of Client/Server Computing
IS 6840, Information Systems Analysis
IS 6945, Database Management Systems
IS 6835, Electronic Commerce
IS 6832, Information Systems Strategy
LOM 5354, Simulation for Managerial Decision Making
IS 6850, Information Systems Design
IS 6836, Telecommunications: Design and Management
IS 6833, Decision Support Systems
IS 6834, Fourth Generation Languages and End User Computing
IS 6890, Management Information Systems Thesis Research
CSC 4770, Operating Systems for Telecommunications
CSC 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 6840, Information Systems Analysis
IS 6845, Database Management Systems
IS 6850, Information Systems Design
IS 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 6840 and IS 6845 with appropriate course work. However, they must take IS 6836 and additional electives of their choice to complete this option.

2. Telecommunications
The following five courses are required:
IS 6836, Telecommunications: Design and Management
IS 6806, Managerial Applications of Object-Oriented Technologies
IS 6837, Management of Client/Server Computing
CSC 4770, Operating Systems for Telecommunications
CSC 5780, Systems Administration

3. Electronic Commerce
The following five courses are required:
IS 6835, Electronic Commerce
IS 6808, Internet Programming for Business
IS 6837, Management of Client/Server Computing
IS 6845, Database Management Systems
IS 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 3150, 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 3401, Financial Accounting and Reporting I
BA 3402, Financial Accounting and Reporting II
BA 3421, Computer Applications in Accounting
BA 3411, Cost Accounting
ACCT 5411, Concepts in Management Accounting
ACCT 3441, Income Taxes
BA 4435, Auditing

MAcc Degree Requirements (minimum: 30 credit hours)

Accounting Courses (minimum: 15 credit hours, 12 credits at the graduate level)
BA 4401, Financial Accounting & Reporting III*
BA 4402, Financial Accounting & Reporting IV*
Research course-At least **one** of the following courses must be completed:
ACCT 5402, Professional Accounting Research
ACCT 5441, Tax Research
Seminar- At least **one** of the following courses must be completed:
ACCT 5403, Seminar in Financial Accounting Theory
ACCT 6441, Seminar in Taxation
ACCT 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 5100, Managerial Communication*
BA 5900, Law, Ethics, and Business*
IS 6800, Management Information Systems*
LOM 5300, Statistical Analysis for Management Decisions*
LOM 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).

Students desiring an emphasis in taxation must complete **ACCT 5441,** Tax Research, ACCT **6441,** Seminar in Taxation, **ACCT 5443,** Taxation of Corporations and Shareholders, and at least two courses from the following list of electives:
ACCT 5442, Taxation of Estates, Gifts, and Trusts
ACCT 5444, Taxation of Partnerships and Partners
ACCT 5445, Tax Practice and Procedure
ACCT 5446, Advanced Topics in Taxation

Auditing/Systems Emphasis
Students desiring an emphasis in Auditing/Systems must complete
ACCT 5402, Professional Accounting Research, **ACCT 5435,** Seminar in Auditing,
ACCT 5436, Systems Auditing,
ACCT 5412, Accounting Systems for Management Planning/ and Control, **and at least three** courses from the following list of electives:
IS 6800, Management Information Systems
IS 6805, Applications of Programming for Business Solutions
IS 6840, Information Systems Analysis
IS 6845, Data Base Management Systems
IS 6850, Information System Design

Ph.D. in Business Administration

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 Administration.
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 a minimum of 69 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 3150 and BA 5000 or their equivalent. Students must also demonstrate appropriate competence in managerial communication, which is evident through completion of BA 5100 or equivalent to be determined by the Ph.D. Coordinator.

Course Requirements
The Ph.D. in Business Administration has a common set of requirements in three areas: Business & Research Foundation (Section I), Supporting Field (Section II), and Other Requirements (Section IV). Requirements specific to the area of emphasis are in Section III.

I. Business & Research Foundation Requirement: 27 credit hours (9 courses)
Students are required to take:
IS 6800, Management Information Systems
LOM 5300, Statistical Analysis for Management Decisions
BA 5900, Law, Ethics, and Business
ACCT 5400, Financial and Managerial Accounting
FIN 6500, Financial Management
MGMT 5600, Organizational Behavior
MKTG 5700, Contemporary Marketing Concepts
LOM 5320, Production and Operations Management
BA 7300, Statistical Modeling

The first eight courses 6800, 5300, 5900, 5400, 6500, 5600, 5700, 5320 will normally be waived if students had the courses as part of an UMSL MBA, MS in IS, or MAcc degree, or had equivalent graduate course work at an institution approved by the Graduate Business Programs Office and the Ph.D. Coordinator.

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 approved by the Ph.D. Coordinator. Supporting fields may include courses within or outside the College of Business Administration and are designed in consultation with the Ph.D. Coordinator.

III. Emphasis Area Requirements:

Students must complete the requirements for one of the emphasis areas.

Information Systems Emphasis
The Information Systems emphasis requirement includes 36 credit hours.
Students are required to take the following ten courses:
IS 6805, Applications of Programming for Business Solutions
IS 6836, Telecommunications: Design and Management
IS 6840, Information Systems Analysis
IS 6845, Database Management Systems
BA 7021, Qualitative Methods and Philosophical Foundations of Business Administration Research
IS 7890, IS Research Seminar
IS 7891, Quantitative Research Methods in MIS
IS 7892, Doctoral Seminar in current Information Systems Topics
IS 7893, Special Topics in MIS
IS 7894, Theoretical Foundations of Information Systems Research

Students are required to take 6 credit hours (2 courses) (not included elsewhere) from the list of approved elective courses for the IS emphasis.

Logistics & Supply Chain Management (LSCM) Emphasis
(Will start Fall 2006 if approved by the Coordinating Board)

The Logistics & Supply Chain Management emphasis requirement includes 33 credit hours.
Students are required to take the following eight courses:
MKT 5770, Supply Chain Management
LOM 6330, Business Logistics Systems
LOM 6331, Logistics and Supply Chain Operations Modeling
LOM 6332, Logistics and Supply Chain Strategic Modeling
LOM 6350, Management Science Methods
LOM 7381, International Supply Chain Management
LOM 7390, Research Seminar in LSCM
LOM 7393, Special Topics in LSCM

Students are required to take nine credit hours (three courses) (not included elsewhere) from the list of approved elective courses for the LSCM emphasis.

IV. Other Requirements:
Upon completion of coursework, students are advanced to candidacy by successfully completing a comprehensive examination in their area of emphasis and a supporting field examination in their 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. Exceptions may be made, contingent on approval by the Ph.D. Coordinator.

Students will be evaluated annually for satisfactory progress. Students deemed not to be making adequate progress are subject to the policies of the College of Business Administration regarding continuation of their assistantship. Students deemed not to be making adequate progress are subject to the policies of the Graduate School and the College of Business Administration regarding probation and dismissal from the program.

Students are required to take a minimum of 6 dissertation credit hours and 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 are required to demonstrate competency in teaching during the first year in which they teach in the College of Business Administration. This requirement may be met by successfully completing one or more courses.

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 5400, Financial and Managerial Accounting
MGMT 5600, Organizational Behavior and Administrative Processes
MKT 5700, Contemporary Marketing Concepts
IS 6800, Management Information Systems

One of the following:
FIN 6500, Financial Management
LOM 5320, Production and Operations Management

Elective Course (1 course):
BA 5100, Managerial Communication
BA 5900, Law, Ethics and Business
***FIN 6500,** Financial Management
***LOM 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 6800, Management Information Systems
IS 6805, Applications of Programming for Business Solutions
IS 6808, Internet Programming for Business
IS 6835, Electronic Commerce
IS 6836, Telecommunications: Design and Management
IS 6837, Management of Client/Server Computing

Students may 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:
MGMT 5600, Organizational Behavior and Administrative Processes
MGMT 5621, Managing Human Resources
MGMT 5623, Compensation and Benefits
MGMT 5222, Union-Management Relations and Collective Bargaining
MGMT 5225, Personnel Administration: Theory and Practice
LOM 5300, Statistical Analysis for Management Decisions

MGMT 5600, MGMT 5621 and LOM 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 MGMT 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 6800 they must complete that course.

Programming Requirement: Students must complete one of the courses listed below:

IS 6805, Applications of Programming for Business Solutions
IS 6806, Managerial Applications of Object-Oriented Technologies
IS 6807, Business Programming and File Systems
IS 6808, Internet Programming for Business
IS 6834, Fourth Generation Languages and End User Computing

Core Courses: Students must complete each of the three courses listed below:
IS 6825, Management Information Systems: Theory and Practice
IS 6840, Information Systems Analysis
IS 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 6805, Applications of Programming for Business Solutions*
IS 6806, Managerial Applications of Object-Oriented Technologies*
IS 6807, Business Programming and File Systems*
IS 6808, Internet Programming for Business*
IS 6832, Information Systems Management
IS 6833, Decision Support Systems
IS 6834, Fourth Generation Languages and End User Computing*
IS 6836, Telecommunications: Design and Management
IS 6838, Business Process Design

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 Graduate Certificate in Information Resource Management. Students should complete the certificate within three years from the time they first enroll in the program.

Graduate Certificate in Information Systems Development
The certificate is an 18-hour program designed to provide a focus on the creation and modification of information systems for business. Topics related to systems development such, as programming and database design are included in the course of study.

Requirements
Students must complete six courses as specified below (or appropriate substitutes if course waivers are approved):

IS 6800, Management Information Systems
IS 6805, Applications of Programming for Business Solutions
IS 6825, Management Information Systems: Theory and Practice
IS 6840, Information Systems Analysis
IS 6845, Database Management Systems
IS 6850, Information Systems Design
Students may 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 Logistics and Supply Management
The Graduate Certificate in Logistics and Supply Chain Management is an 18-hour program designed to provide a focused, intensive study of important issues within logistics and, more broadly, in supply chain management. Three required courses provide thorough background in operations, logistics and supply chain management. Three elective courses allow specialization in areas such as logistics and supply chain software, international logistics, operations research, e-commerce, and quality. Students must complete the following six courses or approved substitutes if course waivers are appropriate:

Required Courses:
LOM 5320, Production and Operations Management
LOM 6330, Business Logistics Systems
MKT 5770, Supply Chain Management

Nine additional hours (generally 3 courses) from:
LOM 5326, Quality Management
LOM 5312, Advanced Statistical Methods for Management Decisions
LOM 5354, Simulation for Managerial Decision Making
LOM 5322, Lean Production
LOM 5381, International Logistics and Operations Management
LOM 6331, Logistics and Supply Chain Operational Modeling
LOM 6332, Logistics and Supply Chain Strategic Modeling
LOM 6350, Management Science Methods
LOM 6354, Advanced Operations Research Topics
LOM 6360, Advanced Logistics & Operations Management Applications
IS 6835, Electronic Commerce
IS 6833, Decision Support System
BA 5333, Topics in Logistics and Supply Chain Management
BA 5301, Introduction to Geographic Information Systems
BA 5198, Seminar in Business Administration*
BA 5299, Individual Research*
*Subject to approval of the Area Coordinator of the LOM Area.

Substitute courses must be approved by the Coordinator of the LOM Area and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the Graduate Certificate in Logistics and Supply Chain Management.

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 appropriate:

MKTG 5700, Contemporary Marketing Concepts
MKTG 5710, Consumer Motivation and Behavior
MKTG 5740, Marketing and Business Research

Marketing Management:
MKTG 5701, Marketing Planning and Strategy
MKTG 5720, Marketing Communications
MKTG 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
ACCT 5441, Tax Research
ACCT 5443, Taxation of Corporations and Shareholders
ACCT 5445, Tax Practice and Procedure
Three Additional Courses From:
ACCT 5442, Taxation of Estates, Gifts, and Trusts
ACCT 5444, Taxation of Partnerships and Partners
ACCT 5446, Advanced Topics in Taxation
BA 5100, Managerial Communication **or**
BA 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.

Course Descriptions

Courses in this section are grouped as follows: all undergraduate courses are listed under Business Administration; 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.
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 upper division 3000 and 4000 level Business Administration course.

Business Administration (BA)

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.

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.

1800 Computers and Information Systems (3) [MI]
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 1010 and BA 1800.

1804 FORTRAN Programming (3)
Prerequisite: 1800. A study of the principles of programming digital computers using the FORTRAN language. Credit will not be granted for both 1804 and CS 1220.

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.

2400 Fundamentals of Financial Accounting (3)
Prerequisites: MATH 1030 and completion of 27 credit hours MATH 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.

2410 Managerial Accounting (3)
Prerequisites: MATH 1030 and BA 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.

2900 Legal Environment of Business (3)
Prerequisites: ECON 1001 and BA 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.

3090 Internship in Business Administration (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 Business Administration electives and have consent of supervising instructor and Associate Dean. A Business College GPA of at least 2.5 is also required. Students are employed in the field of Business Administration where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are the primary goals. A Business Administration faculty member will monitor the student's program with the student providing a formal writing report at the end of the project. BA 3090 may not be counted toward the minimum credit hours for any emphasis area.

3100 Contemporary Business Communication (3)
Prerequisites: ENG 1100 or equivalent and a minimum campus GPA of 2.0. (COMM 1040 recommended, but not required.) 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.

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.

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.

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.

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.

3289 Practicum in International Business (3)
Prerequisites: At least one international business course, 2.0 campus GPA and completion of an approval form. Students will apply both their language skills and knowledge of international business by working for a three-month period in an organization located outside the student's country of origin. This course requires students to prepare a research report summarizing the global experience and how it relates to the international business program.

3300 Business Statistics (3)
Prerequisites: MATH 1100 and 1105, BA 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.

3320 Introduction to Operations Management (3)
Prerequisites: A 2.0 campus GPA and either (ECON 1001, BA 2410, and BA 3300 or (MATH 2000) and STAT 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.

3390 Internship in Logistics and Operations Management (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 LOM 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 Logistics and Operations. Management (LOM) where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are the primary goals. An LOM faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3390 may not be counted towards the minimum credit hours for the LOM emphasis.

3401 Financial Accounting and Reporting I (3)
Prerequisites: A minimum 2.0 campus GPA, MATH 1030, BA 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.

3402 Financial Accounting and Reporting II (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030 and BA 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.

3411 Cost Accounting (3)
Prerequisites: A minimum 2.0 campus GPA, MATH 1030, BA 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.

3421 Accounting Information Systems and Spreadsheet Applications (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030, BA 1800, 2410, and 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.

3441 Income Taxes (3)
Prerequisites: A minimum 2.0 campus GPAand 57 credit hours. Also MATH 1030, and either BA 3401 or BA 3560. 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.

3451 Accounting for Governmental and Not-for-Profit Entities (3)
Prerequisites: A minimum 2.0 campus GPA, MATH 1030, BA 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.

3490 Internship in Accounting (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 Accounting electives at the 3000-level or above 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 Accounting where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. An accounting faculty member will monitor the student's program with the student providing a formal written report at the end of the project.

3500 Financial Management (3)
Prerequisites: ECON 1002, MATH 1105, and BA 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.

3501 Financial Policies (3)
Prerequisites: BA 3500 and a 2.0 campus GPA. The intensification and application of the concepts developed in BA 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.

3502 Treasury Management (3)
Prerequisites: BA 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.

3503 Computer Applications in Finance (3)
Prerequisites: BA 1800, 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.

3520 Investments (3)
Prerequisite: BA 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.

3521 Financial Risk Management (3)
Prerequisites: BA 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.

3522 Security Analysis (3)
Prerequisites: BA 3520 or 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.

3525 Practicum In Investments (1)
Prerequisite: BA 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.

3540 Financial Services Industry and Instruments (3)
Prerequisites: BA 3500 and a 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.

3541 Commercial Bank Management (3)
Prerequisites: ECON 1002, BA 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.

3542 Principles of Real Estate (3)
Prerequisites: BA 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.

3560 Practice of Personal Financial Planning (3)
A minimum campus GPA of 2.0; BA 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.

3561 Principles of Insurance (3)
Prerequisites: BA 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.

3562 Life Insurance (3)
Prerequisites: BA 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.

3563 Retirement Planning and Employee Benefits (3)
Prerequisites: A minimum campus GPA of 2.0; BA 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.

3564 Estate Planning and Trusts (3)
Prerequisite: A minimum campus GPA of 2.0; BA 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.

3580 International Finance (3)
Prerequisites: BA 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.

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.

3582 International Investment (3)
Prerequisites: BA 3500. This course explores the concepts of investing and hedging in international markets. Topics include equity and bond markets, global risk management, portfolio diversification, currency risk, asset pricing, and alternative portfolio strategies. Techniques for using derivatives are discussed in the context of hedging exchange rate risk. Reading foreign exchange quotes and understanding the functioning of global markets is central to the course. A prior course in investments is recommended but not required.

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. BA 3590 may not be counted toward the minimum 15 credit hours of finance electives for a finance emphasis.

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.

3611 Advanced Management and Organizational Behavior (3)
Prerequisite: BA 3600 and a 2.0 campus GPA. Building upon 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.

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.

3621 Human Resource Management (3)
Prerequisites: MATH 1105 BA 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.

3622 Industrial and Labor Relations (3)
Prerequisite: BA 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.

3623 Industrial and Organizational Psychology (3)
[Same as PSYCH 3318] Prerequisites: PSYCH 2201 or MATH 1105, BA 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.

3624 Employee Training and Development (3)
Prerequisite: A minimum 2.0 campus GPA. In addition, BA 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.

3680 International Management (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, ECON 1002 and BA 3600; or consent of 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.

3682 Managing the Global Workforce (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, BA 3600 and at least one of the following: BA 3611 or BA 3621 or enrollment in Honors College or consent of instructor. 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.

3684 The Japanese Management System (3)
Prerequisites: BA 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.

3685 Role of the Global Corporation (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 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.

3689 International Business and Society (3)
Encompasses the readings, lectures, company and government agency visits, and cultural visits that comprise annual Country Study Tours, (e.g., Austria, Japan, Thailand, etc.). The program includes 45 contact hours or more of classroom lectures covering aspects of the chosen country's business and society, in-depth pre-departure cross-cultural orientation and training supplemented by briefings on the country's economy and on U.S. market penetration by the Commercial Service, U.S. Embassy; a briefing by the in-country State of Missouri representative; briefings by host country agencies; company visits and factory tours; and tours of cultural sites. Student evaluation will be based on active participation and on a research paper based on readings, lectures, interviews and field observations.

3690 Internship in Management (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 Management 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 Management where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A Management faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA

3700 Basic Marketing (3)
Prerequisites: ECON 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.

3710 Consumer Behavior (3)
Prerequisites: BA 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.

3720 Management of Promotion (3)
Prerequisite: BA 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.

3721 Internet Marketing (3)
Prerequisites: BA 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.

3740 Marketing Research (3)
Prerequisites: BA 1800, 3700, 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.

3741 Quantitative Marketing Methods (3)
Prerequisites: BA 1800, 3700, 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.

3750 Sales Management (3)
Prerequisites: BA 3700 and BA 3600; (BA 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.

3760 Business-to-Business Marketing (3)
Prerequisites: Senior Standing, MATH 1105, BA 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.

3770 Introduction to Transportation (3)
Prerequisites: A minimum campus GPA of 2.0; also Junior standing or instructor consent. This course provides an overview of the transportation sector, including history, providers, users, and government regulation. The importance and significance of transportation, the operational aspects of transportation modes of rail, water, motor, air and pipeline; the demand and supply of transportation, and the managerial aspects of these modes of transport will be covered in the course.

3771 Traffic and Transportation Management (3)
Prerequisites: A minimum campus GPA of 2.0 and Junior standing or instructor's consent. This course focuses on the purchase of transportation and warehouse services and/or the operation of transportation services as a firm activity. This course is also designed to provide the student with an exposure to the managerial aspects of transportation management as a function of the firm's logistical strategy. In addition, it includes an introduction to the management of firms within the various transportation modes of rail, motor, air, water, and pipelines. This course is designed to provide the student with a basic understanding of the issues and work performed by traffic managers and the management of modern transportation firms.

3780 International Marketing (3)
Prerequisite: BA 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.

3790 Internship in Marketing (1-3)
Prerequisite: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of Marketing electives and have consent of supervising marketing instructor and Area Coordinator. A

Business college of GPA of at least 2.5 is also required. Students are employed in the field of Marketing where they apply for the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A Marketing faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3790 may be counted toward the minimum credit hours of marketing electives required for a marketing emphasis.

3805 COBOL Programming (3)
Prerequisite: BA 1800 or CS 1250. Structured COBOL programming techniques for business applications are presented. Included are report generation, control breaks, output editing, debugging, tables, and sort concepts.

3806 Managerial Applications Of Object-Oriented Programming I (3) Prerequisites: (BA 1800or CS 1220 or 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.

3810 Information Systems Analysis (3)
Prerequisites: BA 3805, or 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.

3815 File Management (3)
Prerequisite: BA 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.

3816 Managerial Applications of Object-Oriented Programming II (3)
Prerequisites: BA 3806 and a minimum campus GPA of 2.0. This course expands object-oriented skills taught in BA 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.

3841 The Management of Information Systems (3)
Prerequisites: [BA 3805 or 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.

3842 Management of Telecommunications (3)
Prerequisite: BA 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.

3843 Decision Support Systems (3)
Prerequisites: BA 3300 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.

3844 End-User Computing for Business Applications (3)
Prerequisite: BA 3805 or BA 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.

3845 Database Management Systems (3)
Prerequisites: BA 3815 or 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.

3890 Internship in Management Information System (1-3)
Prerequisite: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of management information systems electives at the 3000-level or above and have consent of supervising marketing instructor and Area Coordinator. A Business college of GPA of at least 2.5 is also required. Students are employed in the field of management information systems where they apply for the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A management information systems faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3890 may not be counted toward the minimum credit hours of marketing electives required for a management information systems emphasis.

3900 Business Law: Contracts, Sales, Secured Transactions, Bankruptcy (3)
Prerequisites: BA 2400, ECON 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.

3901 Business Law: Negotiable Instruments, Business Organizations, Property (3)
Prerequisites: BA 2400, ECON 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.

3980 The Law of International Business Transactions (3)
Prerequisites: A minimum campus GPA of 2.0; also ECON 1002 and BA 2900 or consent of instructor. A study of the role and function of International Law and national laws in the regulation of international business transactions. The impact of various legal regimes on import-export transactions, foreign investments, and operations of multinational enterprises will be included. The role of national government supranational governmental organizations, and non-governmental organizations in forming and administering the international legal environment will be studied.

3990 Internship in Business Law (1-3)
Prerequisite: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 3 credit hours of Business Law electives and have consent of supervising marketing instructor and Area Coordinator. A Business college of GPA of at least 2.5 is also required. Students are employed in the field of Business Law where they apply for the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A Business Law faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3990 may not be counted toward the minimum credit hours of marketing electives required for a marketing emphasis.

4219 Strategic Management (3)
Prerequisites: Senior standing and BA 3500, 3700, 3600, a minimum campus GPA of 2.0; and concurrent enrollment in BA 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.)

4220 Business Assessment Testing (0)
Prerequisite: Concurrent enrollment in BA 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.

4288 Internship in International Business (3-6)
Prerequisites: ECON 1001 and 1002, BA 2400 and 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.

4312 Business Forecasting (3)
Prerequisites: A minimum campus GPA of 2.0 and either BA 3220 or [Math 3000 and Statistics 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.

4314 Multivariate Analysis (3)
Prerequisites: A minimum campus GPA of 2.0 and either BA 3320 or [Math 3000 and Stat 1320]. A study of statistical techniques applicable to multivariable relationships.

4321 Production and Operations Management (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 3320. 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.

4322 Lean Production in Manufacturing and Service Operations (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 3320. 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.

4324 Service Operations Management (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 3320. An examination of methods for designing and operating service delivery systems, such as 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.

4326 Quality Assurance in Business (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 3320. 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.

4330 Business Logistics Systems (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 3320. 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.

4350 Management Science Methods (3)
Prerequisites: A minimum campus GPA of 2.0 and either BA 3320 or [Math 3000 and Stat 1320]. 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.

4354 Operations Research II (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 4350. Topics of special interest including mathematical programming, stochastic decision-making, digital simulation, game theory, and other selected techniques. (Formerly Mathematical Programming).

4381 International Logistics and Operations Management (3)
Prerequisites: A minimum campus GPA of 2.0 and BA 3320. A study of business logistics and supply chain strategies involving shipments across national boundaries. Topics include the effects of international agreements and regional trading blocks on supply chain strategies; the design of global logistics networks; managerial processes and systems for international production and distribution; and risk management for international logistics.

4401 Financial Accounting and Reporting III (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030 and BA 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.

4402 Financial Accounting and Reporting IV (3)
Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030 and BA 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.

4405 Professional Accounting Research (3)
Prerequisites: BA 4401 and a minimum campus GPA 2.0. 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 is the focal point of the course.

4435 Auditing (3)
Prerequisites: A minimum campus GPA of 2.0. In addition, MATH 1105, BA 3402, and BA 3421 or 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.

4441 Advanced Federal Income Tax: Tax Research and Business Taxation (3)
Prerequisite: A minimum campus GPA of 2.0 and BA 3441. Uses internet-based tax research service to conduct research that resolves tax law questions. Also focuses on federal income taxation of corporations, S corporations, partnerships, LLCs and their owners.

4614 Entrepreneurship/Small Business Management (3)
Prerequisites: BA 2900, 3500, 3700, 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.

4689 International Strategic Management (3)
Prerequisites: A minimum 2.0 campus GPA and BA 3682, 3780 and 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.

4700 Marketing Management (3)
Prerequisites: Math 1105, BA 3700, three other marketing elective courses, 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.

4850 Information Systems Design (3)
Prerequisites: BA 3845, 3810, one of either 3815 or 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.

Accounting Graduate

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 ACCT 5401 (Financial Reporting Analysis).

5401 Financial Reporting & Analysis (3)
Prerequisites: ACCT 5400 or the equivalent. This course builds on the foundations covered in ACCT 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.

5402 Professional Accounting Research (3)
Prerequisite: BA 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.

5403 Seminar in Financial Accounting (3)
Prerequisite: BA 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.

5411 Concepts in Management Accounting (3)
Prerequisites: MATH 1100 or ECON 3150 with a minimum grade of "C" and ACCT 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.

5412 Accounting Systems for Management Planning and Control (3)
Prerequisites: ACCT 5411 and LOM 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.

5435 Seminar in Auditing (3)
Prerequisites: BA 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.

5436 Systems Auditing (3)
Prerequisites: ACCT 5400, IS 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.

5441 Tax Research (3)
Prerequisite: BA 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.

5442 Taxation of Estates, Gifts, and Trusts (3)
Prerequisites: BA 3441 and ACCT 5441, or consent of instructor. Consideration of the transfer tax systems in general; the elements of the gross estate (includible 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.

5443 Taxation of Corporations and Shareholders (3)
Prerequisites: BA 3441 and ACCT 5441, or consent of the 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.

5444 Taxation of Partnerships and Partners (3)
Prerequisites: BA 3441 and ACCT 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.

5445 Tax Practice and Procedure (3)
Prerequisite: BA 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.

5446 Advanced Topics in Taxation (3)
Prerequisites: BA 3441 and ACCT 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.

5451 Management Accounting and Auditing in Governmental and Not-for-Profit Entities (3)
Prerequisites: BA 5450 and ACCT 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.

5452 Seminar in Governmental and Non-Profit Accounting (3)
Prerequisites: BA 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 findings.

5455 Taxes and Managers' Decisions (3)
Provides a framework for understanding how taxes impact decisions of both business and individual taxpayers. The framework enables the student to become an effective evaluator of the tax planning strategies being implemented at both the firm and individual level. Students also learn how to quantify the effect taxes have on any transaction in order to maximize the after-tax return on assets or minimize the after-tax cost of financing. Unlike tax law knowledge, that becomes irrelevant when laws are repealed or changed, the analytical skills developed in this course will remain relevant.

5480 International Accounting (3)
Prerequisites: BA 3402. Accounting practices for multinational businesses. Discussion of comparative financial accounting practices, the development of international accounting standards, and managerial accounting practices related to multinational operations.

5491 Seminar in Advanced Theory and Contemporary Issues in Accountancy (3)
Prerequisite: ACCT 5403 and LOM 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.

6441 Seminar in Taxation (3)
Prerequisite: At least nine hours of Graduate level tax courses including ACCT 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.

Business Administration Graduate

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.

5001 Managerial Economic Analysis (3)
Prerequisites: BA 5000 or ECON 1001 and ECON 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.

5002 Analysis of National Economic Environment (3)
Prerequisites: BA 5000 or ECON 1001 and ECON 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.

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.

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.

5280 International Business Operations (3)
Prerequisite: FIN 6580. Functional management within multinational corporations; case studies of operations abroad; and focus on managerial decision making.

5289 Internship in International Business (3)
Prerequisites: Consent of IMBA Director
Students will apply both their language skills and knowledge of international business by working in an organization located outside the student's country of origin. This course requires students to submit regular evaluations and prepare a research report summarizing their global experience and how it relates to the international business program.

5290 Current Topics in Business Administration (1)
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.

5299 Individual Research (1-10)
Prerequisite: Consent of instructor and graduate director. Special individual research topics under the guidance of a specific professor.

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 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.

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.

5905 Societal, Environmental, and Management Decisions (3)
Prerequisites: BA 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.

6990 Strategy Formulation and Implementation (3)
Prerequisites: FIN 6500, MGT 5600, MKT 5700, LOM 5320 and special consent. Graduate program capstone course examining concepts and methods that integrate functional areas of business. The perspective is that of general management charged with directing the total enterprise. Interactions between the environment, organization, strategy, policies and the implementation of plans are explored. Special emphasis is given to globalization of business and ethical perspectives. This course should be taken during the semester prior to graduation. In no case may it be taken sooner than two semesters prior to graduation.

7001 Doctoral Research (1-12)
Prerequisites: Must have Ph.D. Program Director or Area Coordinator approval. Investigation of an advanced nature culminating in preparation for comprehensive examinations and/or development of dissertation proposal. The course may be repeated.

7002 Dissertation Research (1-12)
Prerequisites: Must have Ph.D. Program Director or Area Coordinator approval. Investigation of an advanced nature culminating in the preparation of a doctoral dissertation. The course may be repeated.

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.

7021 Qualitative Methods and Philosophical Foundations of Business Administration Research (3)
Prerequisites: Admittance into the Ph.D. Program. This course investigates the ontology and epistemology of

business administration research, particularly as they pertain to qualitative research methods, such as case studies, action research, and ethnomethodology.

7300 Statistical Modeling (3)
Prerequisites: LOM 5300; Admittance into the Ph.D. Program. Study of the multivariate analytical techniques and their application to the analysis of business systems. Topics include the construction and adaptation of statistical models and extrapolative techniques to accommodate factor interactions, nonlinearities, and periodic effects. Methodologies include multiple regression, ANOVA, the general linear model, MANOVA, structural equation modeling, and time series modeling.

Finance Graduate

6500 Financial Management (3)
Prerequisites: ACCT 5400 or BA 2400, LOM 5300 or BA 3300, and BA 5000 or ECON 1001 and ECON 1002. This course provides an in-depth analysis of corporate finance including asset pricing, risk and return, short- and long-term investment decisions, capital structure choices, dividend policy, derivatives, mergers and acquisitions, and a host of other current topics. The material is taught through lectures and problem solving.

6501 Advanced Financial Management (3)
Prerequisites: FIN 6500 and LOM 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.

6520 Security Analysis (3)
Prerequisites: FIN 6500 and LOM 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.

6521 Introduction to Derivatives (3)
Prerequisite: FIN 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.

6540 Capital Markets and Financial Institutions (3)
Prerequisite: FIN 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.

6541 Commercial Bank Management (3)
Prerequisite: FIN 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.

6542 Real Estate (3)
Prerequisite: FIN 6500. This course provides a broad introduction to real estate with a focus on legal issues, market analysis, valuation, financing, leasing and investment decisions. Classes are conducted in a standard lecture format with discussion on current topics. No prior knowledge of the industry is required.

6580 International Finance, Investment, and Commercial Relations (3)
Prerequisite: FIN 6500. This course provides students with a working knowledge of the international environment relating to the financial and securities markets along with the impact on corporate operations. International risk and tools to control risk are studied in a practical environment that may include cases. Individual research may be required to reinforce the topics studied in the classroom. Class discussion of current issues and related readings are encouraged.

6581 Seminar in International Investments (3)
Prerequisite: Fin 6500. This course covers topics related to the determination of exchange rates, international parity relations and portfolio diversification. In addition, methods for using foreign exchange derivatives are explored in their use for hedging exchange rate risk. Learning to read foreign exchange quotes and understanding the functioning of global markets is an integral part of the course material. Each student is assigned a foreign country to study throughout the semester with the completion if a comprehensive project report. A prior investments course is recommended but not required.

6590 Seminar in Finance (3)
Prerequisite: FIN 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.

6591 Finance Internship (1-3)
Prerequisite: Students must have completed and/or be enrolled in at least 6 credit hours of finance electives and have consent of supervising faculty member and Area Coordinator. Student work in the field of Finance where they apply the knowledge and skills learned in the

classroom. Professional development and obtaining specialized work experience are the primary goals. The student's program will be monitored by a Finance faculty member with the student providing a formal report at the end of the project.

Information Systems Graduate

6800 Management Information Systems (3)
Prerequisite: ECON 3150. (Same as PPA 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.

6805 Applications of Programming for Business Solutions (3)
Prerequisite: IS 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

6806 Managerial Applications of Object-Oriented Technologies (3)
Prerequisite: IS 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.

6807 Business Programming and File Systems (3)
Prerequisite: IS 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.

6808 Internet Programming for Business (3)
Prerequisite: IS 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.

6825 Management Information Systems: Theory and Practice (3)
Prerequisite: IS 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.

6831 Internship in Advanced MIS Applications (3-6)
Prerequisite: IS 6840 or permission of instructor. The internship will be a supervised field experience in a US-based business/organization or a US-based international business/organization. Students will be employed off-campus for a 10-16 week period on projects directed by host organization supervisors in consultation with a UM-St. Louis faculty member. The project requires students to apply MIS concepts to a real-world problem. The project does not duplicate, but builds upon material in the MIS curriculum. A professional written report will be required. The course may not be repeated for more than six hours credit.

6832 Information Systems Strategy (3)
Prerequisite: IS 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.

6833 Decision Support Systems (3)
Prerequisite: LOM 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.

6834 Fourth Generation Languages and End User Computing (3)
Prerequisite: IS 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.

6835 Electronic Commerce (3)
Prerequisite: IS 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.

6836 Telecommunications: Design and Management (3)
Prerequisite: IS 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.

6837 Management of Client/Server Computing (3)
Prerequisite: IS 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 to 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 inter-operability of components.

6838 Business Process Design (3)
Prerequisites: IS 6800 and IS 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.

6840 Information Systems Analysis (3)
Prerequisite: IS 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.

6845 Database Management Systems (3)
Prerequisite: IS 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.

6850 Information Systems Design (3)
Prerequisites: IS 6840 and IS 6845. This course builds upon the analysis techniques presented in IS 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

6881 Management of Transnational Information Systems (3)
Prerequisites: IS 6800 and IS 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.

6890 Management Information Systems Thesis Research (1-6)
Credit to be awarded upon successful defense of thesis.

6891 Seminar in Management Information Systems (3)
Prerequisite: IS 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

6892 Seminar in Current Management Information System Topics (3)
Prerequisite: IS 6800 and IS 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.

7890 IS Research Seminar (3)
Prerequisites: IS 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.

7891 Quantitative Research Methods in IS (3)
Prerequisites: IS 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.

7892 Doctoral Seminar in Current Information Systems Topics (3)
Prerequisites: IS 6800; Admittance into the Ph. D. Program. Theoretical and empirical analysis of topics of long-term importance to the IS field such as systems analysis and design, systems development and implementation, and database management. A historical perspective of the technical and behavioral issues associated to IS artifacts is provided such that contemporary issues and trends can be appreciated.

7893 Special Topics in IS (3)
Prerequisites: 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.

7894 Theoretical Foundations of Information Systems Research (3)
Prerequisites: IS 6800, Admittance to the Ph.D. Program. The theoretical foundations of information systems are largely built upon the theories from other disciplines, including the physical sciences, computer science, sociology, psychology, and mathematics. In this course, we survey a variety of theoretical foundations from other disciplines by reading the original works, critical responses to these theories, and representative applications of these theories in the IS domain.

Logistics and Operations Management Graduate

5300 Statistical Analysis for Management Decisions (3)
Prerequisites: IS 6800 (may be taken concurrently) and ECON 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.

5301 Introduction to Geographic Information Systems (3)
Prerequisites: LOM 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.

5312 Advanced Statistical Methods for Management Decisions (3)
Prerequisite: LOM 5300 The application of statistical methods to managerial problems, forecasting and business research. Topics include the blending of multiple regression and analysis of variance into a general linear model, logistic models, techniques for projecting seasonal time series, and forecasting techniques (ARIMA models) which deal with serially correlated data. Through class presentations, assigned exercises and a major project, students gain experience in constructing explanatory and predictive models for problems in marketing, finance, etc. Students use commercial software (e.g., the Statistical Analysis System) for analyzing data, constructing, models and producing reports.

5320 Production and Operations Management (3)
Prerequisite: LOM 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.

5322 Lean Production (3)
Prerequisite: LOM 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

5324 Service Operations Management(3)
Prerequisite: LOM 5320. An examination of methods for designing and operating service delivery systems, such as in the health care, financial transportation, hospitality, and governmental services industries. Topics include process and facility design, facility layout and location, queuing, demand forecasting and management, service quality, staffing, and personal scheduling.

5326 Quality Management (3)
Prerequisite: LOM 5300 or STAT 4200 or consent of instructor. (Same as MATH 5370). An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approached 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, Baldridge 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.

5333 Topics in Logistics and Supply Chain Management (3)
Prerequisite: 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.

5334 Internship in Logistics and Supply Chain Management (1)
Prerequisite: 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.

5354 Simulation for Managerial Decision Making (3)
Prerequisite: LOM 5320. Introduction to simulation as a managerial decision-making aid. Application of simulation to a number of management science-oriented problems. The course introduces and requires use of a simulation language.

5381 International Logistics and Operations Management (3)
Prerequisite: LOM 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.

6330 Business Logistics Systems (3)
Prerequisite: LOM 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, reverse logistics and logistics information systems.

6331 Logistics and Supply Chain Operational Modeling (3)
Prerequisites: LOM 5320 and LOM 6330.
A study of the application of leading software packages to modeling problems and issues arising in the operational management of logistics and supply chains. This course covers the economic tradeoffs involved in such decisions, data requirements, operating parameters, and application of software packages to problems such as vehicle routing and scheduling, freight shipments consolidations, cross-docking, and other operational and tactical strategies. This "hands on" course is designed to prepare students for higher-level supply chain analyses and consulting work.

6332 Logistics and Supply Chain Strategic Modeling (3)
Prerequisites: LOM 5320 and LOM 6330.
A study of the application of leading software packages to modeling problems and issues arising in the planning and strategic management of logistics networks and supply chains. The course identifies and explores the economic and customer service tradeoffs involved in such networks. Issues such as location of facilities, assignment of production and distribution missions to facilities, identification of sourcing relationships amongst facilities, and identification of cost and customer service consequences of alternative supply chain designs are addressed by the application of commercial software packages to support decision making. This "hands on" course is designed to prepare students for high-level supply chain and analyses and consulting work.

6350 Management Science Methods (3)
Prerequisite: LOM 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.

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.

6360 Advanced Logistics and Operations Management Applications (3)
Prerequisites: LOM 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.

6395 Seminar in Logistics and Operations Management (3)
Prerequisite: LOM 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.

6840 Experimental and Survey Design and Analysis (3)
Prerequisite: LOM 7310. This course covers the linear model and analysis of variance, including survey design,

validity and reliability, design of experiments and applied regression methods. Topics may include analysis of covariance, multiple comparison procedures, cluster analysis and factorial experiment designs.

7350 Operations Research-Deterministic Models (3)
Prerequisite: MATH 4450 or equivalent. (Same as MATH 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.

7352 Operations Research-Stochastic Models (3)
Prerequisite: STAT 4200 or equivalent. (Same as MATH 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.

7381 International Supply Chain Management (3)
Prerequisites: LOM 5320; Admittance into the Ph.D. Program. A comprehensive examination of international logistics and supply chain management strategies, planning and operations from the firm's perspective. Topics may include multinational logistics and supply chain issues and management strategies, multination sourcing and network design, transportation issues in international supply chains, multinational distribution and operations, legal and financial issues in import and export, risk identification and management in international supply chains, and the relationship of supply chain management to other activities of international firms.

7390 Research Seminar in LSCM (3)
Prerequisites: LOM 6330; Admittance into the Ph.D. Program. Analysis of research approaches, and findings in Logistics and Supply Chain Management. May be repeated for credit when the subject matter is different.

7393 Special Topics in LSCM (3)
Prerequisites: Consent of instructor; Admittance into the Ph.D. Program. In-depth analysis of special topics in Logistics and Supply Chain Management research. May be repeated for credit when the subject matter is different.

Management Graduate

5600 Organizational Behavior and Administrative Processes (3)
Same as PPA 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.

5611 Advanced Organizational Behavior and Administrative Processes (3)
Prerequisite: MGT 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.

5612 Negotiating Workplace Conflict (3)
Prerequisites: PPA/MGT 6600, and Graduate Standing (Same as Public Policy Administration & Sociology 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.

5613 Dynamics of Interpersonal Relations (3)
Prerequisite: MGT 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.

5614 Managing Organizational Change and Design (3)
Prerequisite: BA 5600 (may be taken concurrently)
This course examines the ways to manage organizational change to meet the rapid pace of change in the business environment. Cases and current research inform class discussions of different types of restructuring. Topics may include creating learning organizations, designing for innovation, managing growth and downsizing, and building sustainable organizations.

5621 Managing Human Resources (3)
Prerequisite: MGT 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.

5622 Union-Management Relations and Collective Bargaining (3)
Prerequisites: MGT 5600 and BA 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.

5623 Compensation and Benefits (3)
Prerequisites: MGT 5621 and LOM 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.

5624 Organizational Training (3)
Prerequisite: MGT 5600 or MGT 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.

5625 Selected Topics in Human Resource Management (3)
Prerequisites: MGT 5621 and LOM 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.

5626 Leadership Through People Skills (3)
Prerequisite: MGT 5600 (or permission)
This seminar will help students learn leadership strategies and develop skill sets that will allow them to: (1) Adapt to different people in appropriate and productive ways; (2) Gain commitment from others through the use of effective people skills; and (3) Develop an awareness of their own current style of management and clearly see its impact on their staff and peers. Students will spend approximately 75 percent of their time "learning by doing" as they engage in and receive feedback on skills practices and role-plays. The seminar culminates with students planning and practicing a "real-life" interaction they will face on the job, thus creating a strong transfer of skills and learning from the seminar back to the workplace.

5689 International Business Strategies (3)
Prerequisites: BA 5000 and ACCT 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.

5695 Seminar in Management (3)
Prerequisite: MGT 5600. Topics of current interest in management. Possible topics include, human resource management, international management, and entrepreneurship.

Marketing Graduate

5700 Contemporary Marketing Concepts (3)
Prerequisite: BA 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.

5701 Marketing Planning and Strategy (3)
Prerequisite: MKTG 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 utilizes 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.

5710 Consumer Motivation and Behavior (3)
Prerequisite: MKTG 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.

5720 Marketing Communications (3)
Prerequisite: MKTG 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.

5730 Product Planning and Pricing (3)
Prerequisite: MKTG 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.

5740 Marketing and Business Research (3)
Prerequisites: MKTG 5700 and LOM 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.

5760 Marketing Channel Strategy (3)
Prerequisites: MKTG 5700 and LOM 5320. 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.

5761 Business to Business Marketing (3)
Prerequisite: Graduate standing or consent of instructor. This course provides graduate students with an understanding of the role of business to business marketing as it pertains to business, government, and institutional customers. The course places a heavy emphasis on buyer-seller interaction embodying business to business marketing. In addition to discussing the standard theories and covering the subject domain of business marketing, the course focuses on the finer aspects of business to business marketing negotiations using exercises and readings. Student groups enact complex industrial buyer-seller negotiations striving to achieve their respective organizational goals.

5770 Supply Chain Management (3)
Prerequisite: 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.

5775 Domestic Transportation (3)
Prerequisite: Graduate standing or consent of instructor. Domestic Transportation is the study of North American transportation modes, their management and operating characteristics. This graduate course is part of the Mid-West Transportation Consortium where UMSL, along with 5 other Universities, provides guest lecturers that comment on aspects of transportation. UMSL students concentrate on the business aspects of transportation.

5780 Seminar in International Marketing (3)
Prerequisite: BA 5700. An advanced seminar on topics in international or global marketing. Possible topics include the globalization of trade, export marketing, international market opportunity analysis, and negotiation for international marketers. Students who take one version of this course (e.g. globalization of trade) can take a second version of the course (e.g. negotiation for international marketers) with prior permission.

5795 Seminar in Marketing (3)
Prerequisite: MKTG 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.

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, special education, physical education, 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 **(Cns 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)**
Middle Education Courses **(Mid Ed)**
Higher Education Courses **(Hir Ed)**
Physical Education Courses **(Phy Ed)**
School-Wide Education Courses **(Educ)**
Secondary Education Courses **(Sec Ed)**
Special Education Courses **(Spc Ed)**
Teacher Education Courses **(Tch Ed)**

Teacher Education
Degrees and Areas of Concentration
The College of Education offers certification programs 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 music and art. In cooperation with other schools and colleges of the university, the College of Education provides a program for students pursuing other degrees and also 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 Teacher Education Program are processed through the Office of Advising, Professional Experience and Certification (APEC). 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 Office of Advising, Professional Experiences, and Certification (APEC), 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 at http://coe.umsl.edu/divisions/teaching/learning)
- 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 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 that begins the semesters prior to student teaching.

Deadlines for the Formal Application

Fall Student Teaching	February 1 of the previous year
Winter Student Teaching	September 1 of the previous year

*Check 'My Gateway' and the student teaching bulletin board in Marillac Hall for exact date.

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.
- 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 3100, Advanced Expository Writing, or equivalent, with a grade of C- or better.
- Completion of Comm 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 or better in all professional education courses so designated. Lists of these courses available in the APEC office and from advisers. A grade of C- is not acceptable.
- Satisfactory recommendations by student teaching area representatives in the teacher education program.
- 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 14-weeks an entire semester. The student teaching experience in elementary, middle school and secondary content areas completed at one site for a full semester. The student teaching experience must be completed 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.

Policies regarding withdrawal or removal from student teaching are found in the appropriate student teaching handbook. These are found in the 'online student teaching application' section of the College webpage.

For further information regarding certification, contact the Office of Advising, Professional Experiences, and Certification (APEC) at 155 Marillac Hall.

Application for Degree and/or Certificate

Bachelor of Science in Education (B.S.)
Candidates for the B.S.Ed. degree must complete degree and certificate application forms in the APEC when they apply for admission to student teaching or during the semester before the one in which they expect to finish degree requirements. See information below on the on PRAXIS examination.

The College of Education requires a background check, current within one year, for every UMSL student in the teacher education program. The College of Education may use information that students provide to the University through the admission or course registration data to automatically request background checks of students, without further notification to the student. Please note that students wishing to be certified will still be responsible for an additional, more thorough, fingerprint background check as required by Missouri State Law before a certification will be issued. All background check information will be available to students upon their request.

Bachelor of Educational Studies (B.E.S.)
Candidate should consult the APEC Office, 155 Marillac Hall for more information. This degree offers three areas of

study: Early Childhood, Exercise Science and Professional Studies.

Bachelor of Science in Community Education
Candidate should consult the APEC Office, 155 Marillac Hall for more information.

Students taking evening course offerings should complete degree application forms and certification application forms in the APEC Office.

Bachelor of Arts
Students seeking the B.A. degree with teacher certification must complete a state certification form with the APEC. 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.

Students may earn certification in the fields of elementary education, early childhood education, middle school, music education, physical education special education (cross categorical), art education, as well as the secondary education areas of biology, 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.

Graduate Studies in Education

Degrees and Areas of Emphasis
M.Ed. programs are offered in adult and higher education, 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 are the emphasis areas of reading and early childhood education. Within the secondary education program are the emphasis areas of 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 physical education, educational technology, and severe handicaps.

Ed.S. degree programs are available in school psychology and educational administration.
Programs leading to the Ed.D. degree are offered in four broad interdisciplinary emphasis areas: Educational Administration; Adult & Higher Education; Teaching-Learning Processes; and Counselor Education. Programs leading to the Ph.D. degree are offered in the areas of Counseling, Educational Psychology, Teaching-Learning Processes, and Educational 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 or 33 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 Advising, Professional Experiences, and Certification (APEC), 155 Marillac Hall, one year before those requirements will be completed.

Educational Specialist Degree

The Ed.S. degree is intended to be a terminal degree for school personnel preparing for a specific role, either that of a school psychologist or that of a building or district administrator. The programs require 60 hours of course work, post-baccalaureate. Both programs are designed to meet the respective Missouri certification requirements.

The Ed.S. in School Psychology degree program requires three years of intensive, full-time training but students may be able to complete up to half of the curriculum as a part-time student.. The Ed.S. in Educational Administration can be pursued on a part time or a full time basis.

Admission and General Requirements
The College of Education follows Graduate School policies relating to admissions, academic standards, residency, transfer credit, time limitations, and exit requirements. Specific materials required for application vary by program, but generally applicants should submit an application to The Graduate School, transcripts of previous college work, GRE scores, and letters of recommendation.

Advisement and Program Planning
For advising and program planning, school psychology students should contact the Division of Educational Psychology , Research and Evaluation, 402 Marillac Hall, 314-516-5783. Educational administration students should contact the Division of Educational Leadership and Policy Studies, 269 Marillac Hall, 314-516-5966.

Doctor of Education Degree

The Ed.D. degree is designed primarily for the field practitioner and prepares professional leaders who are competent in identifying and solving complex problems in education. Four emphasis areas embrace general categories of professional activities: Educational Administration; Adult & Higher Education; Teaching-Learning Processes; and Counselor Education.

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 or recommendation two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available.

Degree Requirements

1. Foundations, 12 hours from: philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction and supervision.

2. Research Methods, 12 hours:
6 hours from:
Quantitative research methodology, Ed Rem 6710 and above.
6 hours from
Qualitative research methodology

3. Common doctoral seminars, 6 hours
EDUC 7050, The Research Process I: Framing Research Questions with the Education Literature
EDUC 7950, The Research Process II: Developing and Refining Education Research Proposals

4. Major Specialization, 21-39 hours:

Educational Administration Option
Educational Administration (ED ADM) or other courses selected in consultation with the advisory committee, including internship (3-9 hours)

Adult and Higher Education Option
Adult Education (ADU ED) or Higher Administration (HIR ED) or other courses selected in consultation with the advisory committee, including internship (3-9 hours)

Teaching-Learning Processes Option
Teacher Education (TCH ED) courses or courses in education in a teaching field, including courses on curriculum construction and the design and improvement of instruction, all selected in consultation with the advisory committee, including internship (3-9 hours)

Counselor Education Option
Counseling Education (CNS ED) or other courses selected in consultation with the advisory committee, including internship (3-9 hours)

5. Minor Specialization, 12-18 hours
A secondary area of expertise identified in consultation with the advisory committee

6. Dissertation, 12 hours
Total: minimum 90 hours, post baccalaureate

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:

- Teaching-learning processes
- Educational leadership and policy studies
- Educational psychology
- Counseling

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 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

1. Foundations, 9-12 hours:
Philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction, and supervision.

2. Research Methods 15-18 hours:
Educational Research and Evaluation Methods (Ed Rem)
6710: Educational Research Methods I
Ed Rem 7771: Quantitative Research Methods I
Ed Rem 7781: Qualitative Research Methods in Educational Research I
Either Ed Rem 7772: Quantitative Research Methods II or Ed Rem 7782 Qualitative methods in Educational Research II
Plus an additional Ed Rem course numbered above 6710 or a relevant research methods course in the discipline.

3. Foreign Language Proficiency or Other Research Tools, equivalent to 6 hours

4. Emphasis Area (Primary Discipline) courses, 21-27 hours, with at least 16 in residence, in one of the following areas:

A. Teaching-Learning Processes
Minimum 15 hours in cognate area
Minimum 3 hours in curriculum or instruction
Minimum 3 hours in educational psychology

B. 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.

C. 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.

D. Counseling
Cns Ed 6030, Foundations for Multicultural Counseling
Cns Ed 6040, Group Procedures in Counseling
Cns Ed 6050, Individual Inventory
Cns Ed 6370, Community Counseling Practicum (or **Cns Ed 6270,** School Counseling Practicum)
Cns Ed 6380, Community Counseling Field Experience (6 hours) (or Cns Ed 6280, School Counseling Field Experience I and Cns Ed 6285 School Counseling Field Experience II
Cns Ed 6400, Career Information and Development
Cns Ed 6410, Advanced Career Development
Cns Ed 7000, Advanced Theories of Counseling and Family Therapy
Cns Ed 7010, Advanced Multicultural Counseling
Cns Ed 7020, Seminar in Counseling Research
Cns Ed 7030, Counselor Education and Supervision
Cns Ed 7770, Doctoral Practicum (3 hours)

Additionally, all students should complete **Cns Ed 7780,** Doctoral Internship (6 hrs) as a research internship; and a secondary discipline in Ed Psy consisting of at least Ed **Psy 6310,** Psychology of Learning Processes, **Ed Psy 6113,** Personality Development and Adjustment, and **Ed Rem 6718,** Psycho-Educational Assessment II

5. Related (Secondary Discipline) Courses, 12-15 hours, in education or another department.

6. Required Exit course, 3 hours
Education 7950, The Research Process II: Developing and Refining Education Research Proposals

7. Research Internship, 6-9 hours

8. 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 Advising, Professional Experiences and Certification -155 Marillac
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, graduation 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 (Educ)

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.

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.

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.

2291 Internship II (6)
Prerequisite: Completion of or concurrent enrollment in Educ 2290. Continuation of Educ 2290.

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.

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.

5006 Graduate Workshop (1-10)
Prerequisite: Consent of instructor.

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.

6308 Graduate Institute (1-10)
Prerequisite: Consent of instructor.

6408 Graduate Seminar (1-10)
Prerequisite: Consent of instructor. Intensive study of selected issues in education.

6475 Microcomputer Applications in Music Education (3)
Same as Music 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.

6476 Microcomputer-Assisted Instruction Curriculum Development in Music (3)
Same as Music 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.

6477 Advanced Microcomputer Application in Music (3)
Same as Music 5770. 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.

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.

6998 Thesis Research (1-10)
Prerequisite: Consent of instructor

7050 The Research Process I: Framing Research Questions within the Education Literature (3)
An overview of the essential elements of research proposals and familiarization with the techniques and tools used to identify significant research questions within the education literature. Emphasis is placed on exploring the research literature and both framing and justifying research questions within that literature.

7414 Common Doctoral Seminar(s) (3)
Prerequisite: Admission to the doctoral program. Two Educ 7414 seminars are required for all doctoral students, for a total of six hours of Educ 7414 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.

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.

7495 Doctoral Research Tools (1-6)
Prerequisites: Ed Rem 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.

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.

7881 Research Internship II (3)
Prerequisite: Educ 7880 and consent of instructor. Supervised experience in the conduct of research studies or scholarly inquiry.

7882 Research Internship III (3)
Prerequisite: Educ 7881 and consent of instructor. Supervised experience in the conduct of research studies or scholarly inquiry.

7950 The Research Process II: Developing and Refining Education Research Proposals (3)
Prerequisites: Completion of 6 hours of ED REM courses numbered 7771 or higher. An in depth examination of the essential elements of a research proposal. Particular emphasis is placed on examining the validity and reliability or the trustworthiness of the design of the proposed research. Tools for identifying research strengths and weaknesses are applied to proposals. Presentation of a written proposal and oral defense of that proposal are required.

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
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

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 Division office, 469 Marillac Hall. The Division of Counseling and Family Therapy offers course work leading to four degrees: the Ph.D. in Education with an Emphasis in Counseling; the Ed.D. in Behavioral Developmental Processes with an emphasis in Counselor Education and supervision; an M.Ed. in Community Counseling and an M.Ed. in School Counseling (elementary or secondary). Information on the doctoral degrees is presented in this Bulletin in the general College of Education listing.

The following Division of Counseling and Family Therapy areas have been accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP):

- M.Ed. in Community Counseling
- M.Ed. in Community Counseling with a Specialization in Career Counseling
- M.Ed. in School Counseling

CACREP, a specialized accrediting body recognized by the Commission on Recognition of Postsecondary 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 for the M.Ed. in School Counseling in addition to holding teaching certificates valid in Missouri or taking the equivalent course work. (Consult your advisor if you have questions on these matters.) The M.Ed. in Community Counseling is appropriate for students planning to practice counseling in non school settings, and graduates may pursue the Missouri state license as a professional counselor (in order to practice independently).

The M.Ed. degree programs have an exit requirement of a comprehensive examination. Students may sit for the exam after completing 36 units of the 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 M.Ed., 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 6000, Personal and Professional Development in Counseling, in their first semester. Admissions will be conducted twice a year. The deadlines for application are June 1 for the fall semester and October 15th for the spring semester. M.Ed. students, are accepted on a provisional basis pending their completion of application materials, Cns Ed 6000, and a review of the Counseling Faculty Review Board.

Since it is the objective of the counseling faculty to identify students with low potential for competent practice 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 coursework. Any grade less than a B in any core counseling course (Cns Ed 6000), Personal and Professional Development in Counseling; Cns Ed 6010, Theories of Counseling; Cns Ed 6370, Community Counseling Practium or Cns Ed 6270 School Counseling Practicum; Cns Ed 6380 Community Counseling Field Experience or Cns Ed 6280 School Counseling Field Experience I) will automatically trigger a review process which may result in the termination of the student's degree program.

Students admitted to the M.Ed. degree programs in counseling as "restricted graduate students" (see the "graduate study" rules in this Bulletin) must attain a 3.0 GPA for the first 12 hours of graduate course work at UM-St. Louis with no grade less than a B. Restricted students must include the following courses in the first 12 hours of coursework: Cns Ed 6000, Personal and Professional Development in Counseling; Cns Ed 6010, Theories of Counseling; Cns Ed 6370 Community Counseling Practicum or Cns Ed 6270 School Counseling Practicum; a student earning any grade less than a B in any of these 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)
6000, Personal and Professional Development in Counseling
6010, Theories of Counseling
6600, Theories & Techniques of Counseling Children and Adolescents
6020, Ethical and Professional Issues in Individual and Relationship Counseling
6050, Individual Inventory
6040, Group Procedures in Counseling
6200, Foundations of School Guidance
6400, Career Information and Development
6270, School Counseling Practicum
6280, School Counseling Field Experience I
6285, School Counseling Field Experience II
6030, Foundations for Multicultural Counseling

Psychological Foundations and Human Development (Ed Psy)
6210, Lifespan: Individual & Family Development
6532, Psycho-Educational Differences in Childhood

Educational Research and Evaluation Methods (Ed Rem)
6709, Educational and Psychological Measurement
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: Ed Psych 6111, Spc Ed 6416, Spc Ed 6320, and Elem Ed 6410 or Sec Ed 6415.

Master of Education: Emphasis in Secondary 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)
6000, Personal and Professional Development in Counseling
6010, Theories of Counseling
6600, Theories & Techniques of Counseling Children and Adolescents
6020, Ethical and Professional Issues in Individual and Relationship Counseling
6050, Individual Inventory
6040, Group Procedures in Counseling
6200, Foundations of School Guidance
6400, Career Information and Development
6270, School Counseling Practicum
6280, School Counseling Field Experience I
6285, School Counseling Field Experience II
6030, Foundations for Multicultural Counseling

Psychological Foundations and Human Development (Ed Psy)
6210, Lifespan: Individual & Family Development
6532, Psycho-Educational Differences in Childhood

Educational Research and Evaluation Methods (Ed Rem)
6709, Educational and Psychological Measurement
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 6111, Spc Ed 6416, Spc Ed 6320, and Elem Ed 6410 or Sec Ed 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:
6000, Personal and Professional Development in Counseling
6010, Theories of Counseling
6020, Ethical and Professional Issues in Individual and Relationship Counseling
6050, Individual Inventory
6300, Foundation of Community Counseling
6040, Group Procedures in Counseling
6400, Career Information and Development
6370, Community Counseling Practicum
6380, Community Counseling Field Experience (6)
6030, Foundations of Multicultural Counseling

Psychological Foundations and Human Development (Ed Psych)
The following course is required:
6113, Personality Development and Adjustment

Educational Research and Evaluation Methods (Ed Rem)
The following course is required:
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.

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.

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.

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)

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.

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.

3210 Counseling Gifted Students (3)
Prerequisites: Spc Ed 3313, Ed Psych 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.

3220 Counseling Individuals with Special Needs (3)
Prerequisite: Spc Ed 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.

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.

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.

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.

6010 Theories of Counseling (3)
Prerequisite: Cns Ed 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.

6020 Ethical and Professional Issues in Individual and Relationship Counseling (3)
Prerequisite: Cns Ed 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.

6030 Foundations for Multicultural Counseling (3)
Prerequisite: Cns Ed 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.

6040 Group Procedures in Counseling (3)
Prerequisites: Cns Ed 6010 and Cns Ed 6270 or 6370. 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.

6050 Individual Inventory (3)
Prerequisites: Ed Rem 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.

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.

6270 School Counseling Practicum (3)
Prerequisite: Cns Ed 6000 and 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.

6280 School Counseling Field Experience I (3)
Prerequisite: Cns Ed 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 field experience site supervisor.

6285 School Counseling Field Experience II (3)
Prerequisites: Cns Ed 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 field experience site supervisor.

6300 Foundation of Community Counseling (3)
Prerequisites: Cns Ed 6000 and Cns Ed 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.

6370 Community Counseling Practicum (1-6)
Prerequisite: Cns Ed 6000 and 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.

6380 Community Counseling Field Experience (1-6)
Prerequisite: Cns Ed 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 supervisor during terms of enrollment.

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.

6404 Seminars (1-10)
Prerequisite: Graduate Standing

6410 Advanced Career Development (3)
Prerequisites: Cns Ed 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.

6420 Career Assessment in Counseling and Rehabilitation (3)
Prerequisites: Cns Ed 6050 and 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.

6497 Problems (1-10)

6500 Introduction to Systems Theory for Marriage and Family Counseling (3)
Prerequisite: Cns Ed 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.

6510 Couple Counseling and Enrichment (3)
Prerequisite: Cns Ed 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.

6520 Family Counseling (3)
Prerequisites: Cns Ed 6500 and Cns Ed 6260 or 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.

6530 Assessment and Case Management in Couple and Family Counseling (3)
Prerequisites: Cns Ed 6500, 6510, or 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

6540 Preventive Interventions with Couples and Families (3)
Prerequisite: Cns Ed 6500, 6510, or 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.

6550 Trends, Family Counseling (3)
Prerequisites: Cns Ed 6500, 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.

6600 Theories and Techniques of Counseling Children and Adolescents (3)
Prerequisite: Cns Ed 6000, 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.

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.

6700 Introduction to Addictive Behaviors and Addiction Counseling (3)
Prerequisites: Cns Ed 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.

6782 Advanced Strategies in Addictions Counseling (3)
Prerequisite: Cns Ed 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.

6784 Counseling the Dual Diagnosed Substance Abuser (3)
Prerequisites: Cns Ed 6700 and Cns Ed 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.

6800 Rehabilitation Counseling (3)
Prerequisite: Cns Ed 6000; 6010; 6270; or 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.

7000 Advanced Theories of Counseling and Family Therapy (3)
Prerequisites: Cns Ed 6010, Cns Ed 6500, and Cns Ed 6270 or 6370, or consent of instructor. Contemporary and emergent theories in counseling and family therapy are presented and analyzed. Research issues are addressed.

7010 Advanced Multicultural Counseling (3)
Prerequisite: Cns Ed 6030 and doctoral standing or consent of instructor. This advanced course addresses theories and research in multicultural counseling

7020 Seminar in Counseling Research (3)
Prerequisite: Ed Rem 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.

7030 Counselor Education and Supervision (3)
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.

7040 Counseling Women Toward Empowerment (3)
Prerequisite: Cns Ed 6000, 6010 and Cns Ed 6270 or 6370 or consent of instructor. 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.

7050 Advanced Assessment in Counseling (3)
Prerequisite: Cns Ed 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.

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.

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.

7780 Doctoral Internship (1-6)
Prerequisites: Cns Ed 7770; Ed Rem 7804 and Ed Rem 7781. A 100-hour field experience for each semester-credit hour of enrollment under the direction of a graduate faculty member. 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 in two hours per week of group supervision, and they receive one hour per week of individual supervision by the field site supervisor.

7802 Theory and Practice of Clinical Hypnosis in Counseling (3)
Prerequisite: Cns Ed 6270 or 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.

7806 Practicum in Group Counseling (3)
Prerequisite: Cns Ed 7804 and doctoral standing or consent of instructor. Students will lead or co-lead a supervised counseling group in the community.

Division of Educational Leadership and Policy Studies

Faculty

Carole A. Murphy, Associate Professor*, Chairperson
Ed.D., Texas A & M University
Lynn Beckwith, Jr., Interim E. Desmond Lee Professor in Urban Education, Ed.D., St. Louis University
Judith A. Cochran, E. Desmond Lee Professor in Tutorial Education*
Ph.D., Arizona State University
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, Professor Emeritus*
Ed.D., Washington University
Charles J. Fazzaro, Associate Professor*
Ed.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
Kent Farnsworth, President in Residence
Ph.D., University of Iowa
Thomas R. Schnell, Associate Professor*
Ph.D., Southern Illinois University, Carbondale
Ken Owen, Affiliate Associate Professor*
Ed.D., Saint Louis University
Patricia Boyer, Associate Professor*
Ph.D., University of Missouri-Columbia
Mary Cooper, Assistant Professor of Adult Education*
Ph.D., University of Minnesota
E. Paulette Isaac-Savage, Associate Professor*
Ed.D., University of Georgia
James E. Murray, Assistant Professor*
Ph.D., University of Missouri – St. Louis
Kathleen Sullivan-Brown, Associate Professor*
Ph.D., Washington University
Shawn Woodhouse, Associate 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
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

* members of Graduate Faculty

General Information

The Division of Educational Leadership and Policy Studies (ELAPS) 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.

Graduate Studies

The ELAPS Division offers graduate programs in:

- K-12 Administration: including Missouri State School Administrator Certifications
- Higher Education: including Community College
- Adult and Community Education

K-12 School Administration: Includes academic degree programs at the master's (M.Ed.), specialist (Ed.S.), and doctoral (Ed.D. and Ph.D.) levels. These programs are consistent with the academic requirements for Missouri Sate certification for elementary, middle, and secondary school administration as well as school superintendent and special education administration. The programs are accredited by the National Council for Accreditation of Teacher Education (NCATE) and the Missouri Department of Elementary and Secondary Education (DESE).

The Programs in K-12 school administration are not merely a list of courses. The M.Ed. and Ed.S. degree programs are organized into a continuous two-phase academic/practice experience. In the first phase the students earn the M.Ed. degree and meet the academic requirements for the initial Missouri State elementary and secondary school administrator's certificates. The second phase leads to the Ed.S., concentrating more on the relationship of academics to practical schooling experiences and solution to school-based problems. With proper selection of courses in the Ed.S. phase, students can meet the academic requirements for the Missouri school superintendent's certificate.

Education Specialist (Ed.S.) in Education Administration
The Education Specialist Degree (Ed.S.) in Education Administration is a logical extension of the UM-St. Louis M.Ed. in Education Administration and is designed to prepare administrators to serve in school settings from Kindergarten to grade twelve. The Ed.S. in Education Administration requires at least sixty (60) graduate credit hours of a planned program and may include no more than thirty (30) credit hours of an approved NCATE accredited master's degree. The Ed.S. is a terminal academic degree within the College of Education (COE); therefore, one-half (30 credit hours) must be completed within the COE after being admitted to the program. As constituted, the minimum course requirements for the Ed.S. in Education Administration collaterally meets the academic standards for both Elementary and Secondary advanced school administrator certification in Missouri. To be recommended for the Missouri School Superintendent certificate requires an additional six (6) credit hours.

Admission Standards

To be admitted to the Ed.S. in Education Administration program students must meet the following criteria:

1. Be admitted without qualification to the UM-St. Louis Graduate School;
2. Have scores on the Verbal, Quantitative, and Analytical Writing sections of the Graduate Record Examination that is at least the mean for the applicant's major field, gender, and ethnicity,
3. Have a graduate grade point average of at least 3.25 on a scale of 4.00.
4. Have on file at least four (4) recommendations including the following: one (1) from an educator presently occupying a position equal or similar to that which the applicant aspires upon completing the Ed.S., two (2) from university professors with direct knowledge of the applicant's graduate degree work, and one (1) from someone other than a member of the applicant's family who can comment on the applicant's character.
5. Students already possessing a master's degree from an NCATE accredited institution may transfer those credit hour into the Ed.S. degree program; however, at least thirty (30) credit hours must be completed after acceptance into the program; and
6. Pass an oral interview conducted by the ELAPS K-12 faculty.

Degree Program

There are three (3) phases to this degree program. **Phase 1.00** must be completed by students not possessing a UM-St. Louis M.Ed. in Education Administration and those wanting to transfer appropriate grade courses from other NCATE institutions. **Phase 2.00** applies to those students meeting all of the requirements in Phase 1.00. There are two (2) sections to **Phase 2.00**— Section 2.10 ***Technical Aspects of Education Administration*** and Section 2.20 Human Aspects of Education Administration. Courses in these two sections may be taken simultaneously. There are two (2) sections to **Phase 3.00**— Section 3.10 *Writing Exit Requirements* and Section 3.20 ***Examination Exit Requirements***. Both sections must be completed no sooner than one (1) semester before completing all degree requirements.

Phase 1.00
1.00 Elementary and Secondary School Education Emphases

1.10 Contexts Core
ED ADM 6201, Knowledge Contexts of Education Administration and Policy (3)
ED ADM 6202, Social Contexts of Education (3)
ED ADM 6203, Political Contexts of Education (3)
ED ADM 6204, Economic Contexts of Education (3)
ED ADM 6205, Legal Contexts of Education (3)
Required Semester Hours Section 1.10..... 15

1.20 Research/Change Core (6-9 semester hours)
*ED REM 6707, Classroom Measurement and Evaluation (3)
**ED ADM 6301, Education Administration and Policy Research(3)
ED ADM 6503, Organizational Change in Education (3)
Required Semester Hours Section 1.20 6-9

1.30 School Specialization Core

1.31 Elementary School Administration

ED ADM 6302, Elementary School Administration (3)
ED ADM 6401, School Staff Development and Supervision (3)
ELE ED 6411, Curricular Issues in Elementary Schools **OR**
*** ED ADM (6900) Internship (3)
Required Semester Hours Section 1.31.....12
OR
1.32 Secondary School Administration

ED ADM 6304, Secondary School Administration (3)
ED ADM 6401, School Staff Development and Supervision (3)
SEC ED 6415, Secondary School Curriculum **OR**
*** ED ADM 6900 Internship (3)
Required Semester Hours Section 1.32 12
TOTAL Phase I..... 33-36
* Required if student had no equivalent course at the undergraduate level
** Must be taken during the first semester of Phase 2.00 courses
*** This course must be taken within the last (10) ten semester hours of completion of Phase 1.00

Phase 2.00

Section 2.10
Technical Aspects of Education Administration
(12 Semester hours required)

At least 12 graduate semester hours are required from the following list of recommended courses. Other courses must be approved by the student's advisor and ELAPS division chairperson.

ED ADM 6303, Middle School Administration (3)
ED ADM 6305, School District Administration (3)
ED ADM 6501, Principles of Public School Finance in Missouri (3)
ED ADM 6502, School Buildings and Sites (3)
ED ADM 6601, Administration of Adult and Community Education (3)
ED ADM 6603, Financing of Community Education (3)
HIRED 6473, Curriculum in Higher Education (3)
HIRED 6476, Organization and Administration of Higher Education (3)

ELE ED 6411, Curricular Issues in the Elementary School (3)
ELE ED 4316, Middle Level Curriculum and Instruction (3)
SEC ED 6415, Secondary School Curriculum (3)
SEC ED 6420, Improvement of Secondary School Teaching (3)
SEC ED 4315, The Middle Level School (3)
ED ADM 6306, Special Education Administration (3)
ED TEC 5340, Selection and Utilization of Educational Media (3)
ED TEC 6433, Educational Technology Systems Management (3)
ED TEC 6449, Using Technology in Administrative Processes (3)
ED REM 6708, Education and Psychological Measurement
ED REM 6709, Individual Assessment of Cognitive Abilities (3)

Section 2.20
Human Aspects of Education Administration
(12 semester hours required)

At least 12 graduate semester hours are required from the following list of recommended courses. Other courses must be approved by the student's advisor and ELAPS division chairperson.

ED ADM 6402, School Personnel Administration (3)
ED ADM 6403, Problems in School Public Relations (3)
ED ADM 6404, Collective Negotiations in Education Organizations (3)
ED ADM 6602, Programming in Adult and Community Education (3)
HIRED 6474, The College Student (3)
HIRED 6477, History and Philosophy of American Higher Education (3)
ED FND 6421, Philosophy of Education (3)
ED FND 6422, Analysis of Education Issues (3)
ED FND 6435, History of Western Education (3)
ELE ED 4317, The Middle Level Child (3)
ED PSY 6225, Psychology of Adolescence (3)
CNS ED 6200, Foundations of School Guidance (3)
POL SCI 6462, Political Theory and Public Policy (3)
POL SCI 6470, Proseminar in Urban Politics (3)
CNS ED 6200, Foundations of School Guidance (3)
ED ADM 6900, Internship (School District Level) (3)
ED ADM 6900, Internship (Special Education Setting) (3)
Total Section 5.32..... 12

TOTAL **Education Specialist Degree in Education Administration** 60

Phase 3.00
Writing and Examination Exit Requirements

Section 3.10-Writing Requirements
At least four (4) months before the completion of all course work for the degree, each student must present to the ELAPS Division K-12 Regular faculty *Ed.S. Writing Committee* a **scholarly paper** on a topic approved by the student's academic advisor. The paper submitted may be original in that it has been written especially for this requirement or it may be a more comprehensive version of a paper written for a class taken after being admitted to the Ed.S. program. The paper must conform to the writing standards found in the booklet ***ELAPS K-12 Writing Requirements-Form and Style.*** The topic and substance of the paper will be central to the oral comprehensive examination (see below).

Section 3.20-Examination Requirements

There is both a written and oral portion to this examination requirement.

Written: At least three (3) months before completion of all course work for the degree, each student must complete a written examination of no less than three (3) hours on two (2) topics agreed upon by the student's academic advisor and the student. The examinations will be read and evaluated on scholarly substance of content and quality of writing as either PASS or FAIL by at least two (2) Regular members of the ELAPS K-12 faculty. Students receiving a FAIL grade may retake the examination no more than twice. Students failing the examination a third time will be dropped from the program.

Oral: Within two (2) weeks after receiving a PASS grade on the written portion of this examination, each student must stand to a one (1) hour oral examination by at least three (3) members of the ELAPS K-12 administration faculty (at least one must be Regular). The examination must include the student's scholarly paper and may include any other aspect of the student's program deemed important to the examiners. The grade for the oral portion will be either PASS or FAIL. Students receiving a FAIL grade may retake the oral portion of the examination no more than twice. Students failing the oral examination a third time will be dropped from the program.

Master of Education (M.Ed.) and Initial Missouri School Administration Certification: The program of study for the M.Ed. in Education Administration is thirty-three (33) graduate credit hours. All courses in the program are required and must be taken in a particular sequence. The program meets the academic requirements for either the Missouri elementary or secondary school administrator certificate.

Degree Requirements

1.00 Contexts Core (15 semester hours)

Ed Adm 6201, Knowledge Contexts of Education Administration and Policy
Ed Adm 6202, Social Contexts of Education
Ed Adm 6203, Political Contexts of Education
Ed Adm 6204, Economic Contexts of Education
Ed Adm 6205, Legal Contexts of Education

1.20 Research/Change Core (6-9 semester hours)

***Ed Rem 6707,** Classroom Measurement and Evaluation
****Ed Adm 6301,** Education Administration Policy Research
Ed Adm 6503, Organizational Change in Education

1.30 School Specialization Core (12 semester hours)

1.31 Elementary School Administration
Ed Adm 6302, Elementary School Administration
Ed Adm 6401, School Staff Development and Supervision
Ele Ed 6411, Curricular Issues in Elementary Schools
***** Ed Adm 6900,** Internship

1.32 Secondary School Administration

Ed Adm 6304, Secondary School Administration
Ed Adm 6401, School Staff Development and Supervision
Sec Ed 6415, Secondary School Curriculum
*****Ed Adm 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.

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 **Ed Fnd 6421,** Philosophy of Education
Ed Fnd 6435, History of Western Education
OR
Ed Fnd 4330, History of American Education
Ed Fnd 6422, Social Contexts of Education
Ed Adm 6203, Political Contexts of Education
Total Required Sem. Hrs. Section 2.10 = 12

2.20 **Research Core**
Ed Adm 6301, Educational Administration Policy Research
Ed Rem 5730, Educational Statistics
Total Required Sem. Hrs. Section 2.20 = 6

2.30 **Community Education**
Ed Rem 6601, Administration of Community and Adult Education
Ed Adm 6602, Programming in Community and Adult Education
Ed Adm 6900, Internship: Community Education
Total Required Sem. Hrs. Section 2.30 = 9

2.40 **School Specialization****

2.41 **Elementary School Administration**
Ed Adm 6302, Elementary School Administration
Ele Ed 6411, Curricular Issues in the Elementary School
Total Required Sem. Hrs. Section 2.41 = 6

2.42 **Secondary School Administration**
Ed Adm 6304, Secondary School Administration
Sec Ed 6415, The Secondary School Curriculum
OR
Total Required Sem. Hrs. Section 2.42 = 6

TOTAL Master of Education-Community Educ = 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.

Master of Education in Adult & Higher Education

The M.Ed. in Adult & Higher Education is intended for 1) faculty and other educators who want to improve their adult teaching skills; 2) persons who occupy and seek to advance into administrative or management positions in a variety of educational settings; and 3) others who work with adults in a variety of agencies. The degree program includes courses in foundations, curriculum and teaching (including distance learning), organization and administration, research, and electives so that students can create an emphasis area to fit their career goals. To help address student interests, special topic seminars are offered from time to time. An internship in the student's emphasis area is a required exit experience. Students elect either the adult education or higher education emphasis area.

Admission Requirements:
This degree program follows the policies of The College of Education and the Graduate School relating to admissions, academic standards, residency, transfer credit, time limitations, and thesis options (see Graduate Study in the Bulletin). The minimum number of hours required for the M.Ed. degree is 32 credit hours.

Education Requirements

Foundation Courses (12 hours required)
A course focusing on the learner

ADU ED 6410, The Adult Learner (3) OR
HIR ED 6474, The College Student (3)
A course in historical foundations
ADU ED 6411, History of Adult Education (3) OR
HIR ED 6477, History and Philosophy (3)
A course on the improvement of instruction
ADU ED 6413, Improvement of Instruction in Adult Education (3) OR
HIR ED 6473, Curriculum in Higher Education (3) OR
ED PSY 7647, Teaching for Learning in the University (3)

One of the following:
ADU ED 6412, Philosophical Foundations of Adult Education (3)
ADU ED 6414, Curriculum Theory & Development in Adult Education (3)
HIR ED 6476, Organization and Administration (3)

Adult and Higher Education Electives (12 hours minimum)
ADU ED 4311, Teaching Basic Reading Skills to Adults (3)
ADU ED 6430, Comparative Education: Adult & International (3)
ADU ED 6411, History of Adult Education (3)
ADU ED 6416, Survey of Adult Distance Education (3)
ADU ED 6417, Multicultural Issues in Adult Education (3)
ADU ED 6418, Assessment in the Adult Classroom (3)
ADU ED 6230, Adult Learning and Development (3)
ADU ED 6420, Survey of Human Resource Development & Adult Ed (3)
ADU ED 6425, Principles of Business Education (3)
ADU ED 6426, Coordination of Cooperative Vocational Programs (3)
ADU ED 6427, Improvement of Instruction in Teaching Business Subjects (3)
ADU ED 6432, Teaching in the Community College (3)
ADU ED 6435, Problems in Teaching College Biology (3)
ADU Ed 6997, Problems in Adult Education Research (3)
ADU ED 6404, Seminar (3)
HIR ED 5401, Current Issues in Higher Education (3)
HIR ED 5402, Student Affairs Administration (3)
HIR ED 6404, Seminar (3)
HIR ED 6405, Economic s and Finance (3)
HIR ED 6406, Governance of Higher Education (3)
HIR ED 6407, Legal Aspects of Higher Education (3)
HIR ED 6421, Legal Aspects of Postsecondary Teaching (3)
HIR ED 6422, Policy Analysis of Higher Education (3)
HIR ED 6430, The Community College (3)
EDUC 6308, Foundations of Adult Basic Education (3)
ED ADM 6461, Administration of Adult and Community Education (3)
ED ADM 6462, Programming in Adult and Community Education (3)
ED PSY 6111, Psychology of Education (3)
ED TEC 5340, Selection and Utilization of Educational Multimedia (3)
ED TEC 6415, Teaching and Learning with Technology: Authoring Tools (3)
ED TEC 6416, Teaching and Learning with Technology: Data Rep. Tools
ED TEC 6436, Computer-Mediated Communication in Education (3)
ED TEC 6437, Distance Learning via Networks and Telecommunications (3)
ED TEC 6452, Educational Multimedia Design (3)
ED TEC 6454, Instructional Video Production (3)

Research Course(s) (3-6 hours required)
ED REM 6710, Research Methods* (3)
ED REM 6707, Classroom Measurement and Evaluation (3)
ED REM 6709, Educational & Psychological Measurement (3)
*Required for Higher Education
Exit Requirement (3 hours required)
One of the following taken during the 9 semester hours of the program
HIR ED 6490, Internship or Thesis in Higher Education (3)
ADU ED 6990, Internship in Adult Education (3)

Adult Basic Education Certification
***Adu Ed 4311,** Teaching Basic Reading Skills to Adults
***Ele Ed 6455,** Problems of Teaching Arithmetic in the Elementary School or **Ele Ed 4346,** Advanced Methods in Elementary School Mathematics

*Eight semester hours from these six courses, and 3 hours of adult education electives, in addition to Spc Ed 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. A holder of 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, institute 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 adults, but do not have regular teacher certification. Information is available for professional certificates for full-time ABE teachers.

Graduate Certificate in Institutional Research
The Post-Master's Certificate in Institutional Research (CPIR) is for academics who want training in Institutional Research in preparation for working in an IR Office at a postsecondary institution, a government agency, or a private education organization. The program consists of 18 hours and may be taken as part of a doctoral program. Of the 18 hours, 12 are in the required core (6 hours are in research methods and 6 hours in IR seminars), plus a 3-hour Higher

Education (HIR ED) or an Educational Research (ED REM) elective and a 3-hour capstone. Students may transfer up to 5 hours of post-Master's work into the program with the approval of the advisor.

Course Descriptions

Adult Education (Adu Ed)

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.

4410 The Non-Traditional Adult Learner (3)
An introduction to the non-traditional adult learner. At the completion of the course the students will be able to identify the characteristics of non-traditional adult learners and various theories of how they learn, as well as the implications of these characteristics and theories on adult

6230 Adult Learning and Development (3)
Prerequisites: Ed Psy 6210 or Ed Psy 6111, or Adu Ed 6410. (Same as Ed Psy 6230). 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.

6404 Seminar in Adult Education Research (1-10)
Prerequisites: Adu Ed 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.

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.

6411 History of Adult Education (3)
Prerequisites: Adu Ed 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

6412 Philosophical Foundations of Adult Education (3)
Prerequisites: Adu Ed 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.

6413 Improvement of Instruction in Adult Education (3)
Prerequisites: Adu Ed 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.

6414 Curriculum Theory and Development in Adult Education (3)
Prerequisites: Adu Ed 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.

6416 Survey of Adult Distance Education (3)
Prerequisites: Adu Ed 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.

6417 Multicultural Issues in Adult Education (3)
Prerequisites: Adu Ed 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.

6418 Assessment in the Adult Classroom (3)
Prerequisites: Adu Ed (6) 6410 & Ed Rem 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.

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.

6424 Intervention Determination in Adult Learning and Human Resource Development (3)
Prerequisites: Adu Ed 6410. A variety of strategies will be studied with a view to examining systemic problems in

workforce and adult learning situations. The determination of interventions for program planning and development is the major focus. As key outcomes for this course, learners will be able to design and develop plans and distinguished among workplace, community and educational needs that can be met with educational interventions and those that require other, and more appropriate, non-training solutions. While specifically focused on HRD applications, the content of this course will apply to any educational setting for adults.

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.

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.

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.

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.

6435 Problems in Teaching College Biology (3)
Same as Biology 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.

6494 Directed Readings in Adult Learning (1.0-6.0)
Prerequisites: Graduate Standing, Adu Ed 6410 and consent of instructor. Self-directed learning, as a key concept in Adult Education, is encouraged as a means of understanding the adult experience, both personally and professionally, and is a recognized core competency in the field of Adult Education. This course consists of supervised, independent study into the current research, literature, and issues in the area of Adult Learning. Learners are given the opportunity to meet with other learners and the instructor on a regular basis to share resources, ideas, and to gain feedback.

6497 Problems in Adult Education (1-10)
Prerequisites: Adu Ed 6410 or consent of instructor. Independent study on topics in adult education.

6990 Internship (1-10)
Prerequisites: Adu Ed 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.

Educational Administration (Ed Adm)
Prerequisites may be waived by consent of the department.

6201 Knowledge Contexts of Education Administration and Policy (3)
Prerequisites: Admission to masters, doctoral, and/or certification programs in Education Administration 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.

6202 Social Contexts of Education (3)
Prerequisites: Ed Adm 6201, concurrent with Ed Adm 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.

6203 Political Contexts of Education (3)
Prerequisites: Ed Adm 6201, concurrent with Ed Adm 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.

6204 Economic Contexts of Education (3)
Prerequisites: Ed Adm 6201, concurrent with Ed Adm 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.

6205 Legal Contexts of Education (3)
Prerequisites: Ed Adm 6201, concurrent with Ed Adm 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.

6301 Education Administration Policy Research (3)
Prerequisites: Completion of at least twenty-four (24) credit hours towards the M.Ed. in Education Administration or consent of instructor. A study of issues and trends in basic, applied, and action research in educational policy making.

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.

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.

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.

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.

6306 Special Education Administration (3)
Prerequisites: Completion of graduate degree in Special Education, Education Administration or consent of instructor. 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.

6315 Middle School Educational Philosophy (3)
Prerequisites: Graduate standing.
An in-depth examination of the educational philosophy and historical basis of middle level schools, and the relationship between philosophy and middle school organizational practices. Includes a review of the research, organizational structures and current trends and practices.

6317 Supervision and the Middle School Child (3)
Prerequisites: Graduate standing.
The unique developmental characteristics and needs of early adolescents are explored through a variety of supervisory activities involving middle level students, teachers, administrators. The implications of economic and ethnic diversity for middle level schools will also be addressed.

6401 School Staff Development and Supervision (3)
Prerequisite: Ed Adm 6201, concurrent with Ed Adm 6201, 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.

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.

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.

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.

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.

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.

6449 Using Technology in Administration Processes (3)
Prerequisites: A course in measurement, statistics or evaluation, or consent of instructor. (Same as Ed Tec 6449). This course will explore how the use of data analysis with technology can be applied in the administration of schools or other work settings. Administrators will explore software tools and their implications for making decisions. A case study will be completed on the implementation of a technology in a school or other appropriate setting.

6497 Problems (1-10)

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.

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.

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.

6504 Organizational Change in Special Education Administration (3)
Prerequisites: Advanced graduate standing and/or consent of instructor.
This course deals with developing strategies for assessing special educational needs, methods of district wide self-assessment of inclusive practices, the designing of educational change strategies involving theory based models, using collaborative-problem solving techniques to implement educational change, and methods of involving students and staff in incorporating meaningful organizational change strategies in special education.

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.

6602 Programming in Community and Adult Education (3)
Prerequisite: Ed Adm 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.

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.

6800 Education Policy Studies Seminar (1-6)
Prerequisites: Admission to doctoral program and consent of instructor. Intensive directed study of selected education policy issues.

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.

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.

Higher Education (Hir Ed)

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.

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.

6404 The Seminar (1-10)
Prerequisites: Graduate standing.

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.

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.

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.

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.

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.

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.

6431 Community College Leadership (3)
Prerequisites: Graduate admission. Introduces students to leadership theory and practice and the literature of leadership development. Applies theory and practice to the unique role of the leader in community colleges, including the community college presidency. Particular emphasis is given to the diverse roles expected of the successful leader in today's community college.

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.

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.

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.

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.

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.

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.

6497 Problems (1-10)
Prerequisites: Graduate standing and/or consent of the instructor.

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.

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.

Division of Educational Psychology, Research and Evaluation

Faculty

Matthew W. Keefer, Associate Professor and Chair*
Ph.D., University of Toronto
Wolfgang Althof, Theresa Fischer Endowed Professor of Citizenship Education, Dr. Phil., University of Fribourg and Dr. Phil. Habil, Carl-Von-Ossietzky
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
Victor A. Battistich, Associate Professor*
Ph.D., Michigan State University
Margaret W. Cohen, Associate Professor*
Interim Associate Vice Chancellor of Academic Affairs, Director, Center Teaching Excellence
Ph.D., Washington University
Michael W. Bahr, Associate Professor
Ph.D., Indiana University
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

* members of Graduate Faculty

General Information

Faculty in the Division of Educational Psychology, Research, and 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.

Educational Specialist in School Psychology

The Educational Specialist in School Psychology program is a terminal degree program designed to train future school psychologists to work in school settings and meet Missouri certification as a School Psychologist. The program consists of 60 hours of graduate coursework designed to prepare school psychologists for professional roles in the scientist-practitioner model of service delivery. In addition to courses in psychological and educational foundations, assessment, and direct interventions, a primary emphasis within the program is upon prevention and early intervention of academic, behavioral, and social-emotional problems through consultation, inter-disciplinary collaboration, and the facilitation of organizational change. Throughout the program, including 400-hours of supervised practicum and a year-long 1,400 hour internship in the schools, students will work closely with the school psychology faculty and field based supervisors to develop practical skills.

Interested applicants are required to submit undergraduate and graduate transcripts, current Graduate Records Examination scores, two letters of recommendation, and a personal statement describing professional goals (not to exceed five double-spaced typed pages). All required application materials will be considered in making admission decisions, but preference will be given to applicants with at least 3.0 GPA and a combined GRE verbal/quantitative score of 1,000. Finalists will be invited for a personal interview with members of the school psychology faculty. A prerequisite of 12 hours of graduate or undergraduate psychology courses in developmental psychology, statistics, tests and measurement, and theories of personality is required for admission. Conditional acceptance into the program may be granted pending completion of prerequisites and/or satisfactory progress in the program (i.e., 3.0 graduate GPA) for students who lack prerequisites or do not quite meet the admission requirements.

The Educational Specialist in School Psychology degree program requires three years of intensive, full-time training; however, students may be able to complete up to half of the curriculum as a part-time student. Graduate coursework completed prior to entering the program will be evaluated and considered for credit on an individual basis, but a minimum of 30 hours used for the degree must be completed at the University of Missouri-St. Louis. In addition, students must satisfy a residency requirement that involves taking nine credit hours per semester for two consecutive semesters or the completion of a planned sequence of required activities. Please note that the internship year involves a full-time placement with a school district during an academic school year, and as such cannot be done on a part-time basis. Students planning to work toward the specialist degree on a part-time basis are advised to meet with their adviser and develop a professional education plan at the start of their program.

Educational Specialist in School Psychology Curriculum

Fall I (12)
Ed Psy 6530, Foundations of School Psychology
Ed Psy 6210, Life Span: Individual and Family Development
ED REM 6710, Educational Research Methods and Design
ED REM 6716, Psycho-Educational Assessment I

Winter I (12)
ED REM 7771, Quantitative Research Methods I
ED PSY 6310, Psychology of Learning Processes
ED REM 6718, Psycho-Educational Assessment II
ED PSY 6531, Professional Issues in School Psychology

Summer I (6)
CNS ED 6010, Theories of Counseling
Ed PSY 6532, Psycho-Educational Differences of Childhood

Fall II (12)
CNS ED 6600, Theories and Techniques of Counseling Children and Adolescents
ED PSY 6545, Consultation in Schools and Related Settings
ED PSY 6590, School Psychology Practicum I
ED PSY 6536, Biological Factors Influencing Human Behavior (Comprehensive Examination or Thesis)

Winter II (12)
ED PSY 6540, Psycho-Educational Interventions in Childhood
SPC ED 6444, Education of Learners w/Learning Disabilities
ED PSY 7645, Sociocultural Perspectives in Education [or CNS ED 6030 – Foundations for Multicultural Counseling]
ED PSY 6590, School Psychology Practicum II (National School Psychology Exam and Case Study)

Fall III (3)
ED PSY 6990, Internship in School Psychology

Winter III (3)
ED PSY 6990, Internship in School Psychology

Graduate Certificate in School Psychology

The Graduate Certificate in School Psychology is a 30-hour certificate program designed specifically for students who already possess graduate degrees and wish to work toward certification as a School Psychologist in Missouri. The program consists of a coordinated curriculum of school psychology specialty courses that provide partial completion of the 60 graduate hours required for certification as a School Psychologist in Missouri. Please note that the Graduate Certificate in School Psychology is a university certificate and not state certification; it can be completed en route to state certification, but additional coursework is required (e.g., internship). Applicants should submit official undergraduate and graduate transcripts, current GRE scores, two letters of recommendation, and a personal statement describing professional goals (not to exceed five double-spaced typed pages). The final step of the admission process involves a personal interview with a school psychology faculty member to explore career aspirations, review graduate transcripts, and develop a professional education plan tailored to the individual needs of the student. Graduate coursework completed within six years will be considered for credit toward the certificate and/or certification on an individual basis, but a minimum of 12-hours of graduate coursework must be completed at the University of Missouri-St. Louis to satisfy the university residency requirement. Again, please note that state certification as a School Psychologist typically involves additional coursework beyond the requirements for the Graduate Certificate in School Psychology as outlined below.

Courses:

Foundations (9 hours)
Ed Psy 6530, Foundations of School Psychology
Ed Psy 6532, Psycho-Educational Difference in Children
Ed Psy 6550, Professional Issues in School Psychology

Psycho-Educational Assessment (6 hours)
Ed Rem 6716, Psycho-Educational Assessment I
Ed Rem 6718, Psycho-Educational Assessment II

Interventions (9 hours)
Spc Ed 6444, Education of Learners with Learning Disabilities
Ed Psy 6540, Psycho-Educational Interventions in Childhood
Ed Psy 6545, Consultation in Schools and Related Settings

Supervised Experience (6 hours)
Ed Psy 6590, School Psychology Practicum

Graduate Certificate in Program Evaluation and Assessment in Education

The Graduate Certificate in Program Evaluation and Assessment in Education provides specialized study in the theory and practice of program evaluation and assessment. The program will build on the content area knowledge base of the individual's bachelors or masters degree. The focus of the Program Evaluation and Assessment in Education certificate will be on the skills delineated in the standards and guidelines of the American Evaluation Association and the Joint committee on Standards in Educational Evaluation. The certificate will consist of 30 hours of core courses and internship experiences. Graduate credits earned in equivalent courses in Education or related Social Science disciplines may meet some of these requirements. Ed Rem 6710 Educational Research

Methods and Design or its equivalent is prerequisite to all the courses in the Research Methods and Statistics focus area.

Courses:

Program Evaluation (12 credit hours)
Ed Rem 6730, Educational Program Evaluation (3)
Ed Rem 6732, Advanced Theory and Practice in Educational Program Evaluation (3)
Ed Rem 6990, Internship (6)

Testing and Measurement (9 credit hours)
Ed Rem 6707, Classroom Measurement and Evaluation (3)
Ed Rem 6709, Educational and Psychological Testing (3)
Ed Rem 7711, Advanced Test Theory in Education (3)

Research Methods and Statistics (9 credit hours)
Ed Rem 6712, Survey Research Methods in Education (3)
Ed Rem 7771, Quantitative Research Methods I (3)
Ed Rem 7781, Qualitative Methods in Educational Research I (3)

Course Descriptions

Courses in this section are grouped as follows:
Educational Psychology (Ed Psy) and Educational Research and Evaluation Methods (Ed Rem)

Educational Psychology (Ed Psy)

2212 Introduction to Learners and Learning (3)
Prerequisite: Psych 1003. Same as Tch Ed 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. A minimum of 10 field experience hours required.

3312 The Psychology of Teaching and Learning (3)
Prerequisites: Tch Ed 2210, Tch Ed 2211, Tch Ed 2212 or equivalents and admission to Teacher Education program. (Same as Tch Ed 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.

3525 Education and the Psychology of Human Sexuality (3)
(Same as Nursing 4725). 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.

6030 Instruction, Learning and Assessment (3)
Prerequisites: Admission into Graduate School. Same as Tch Ed 6030. Uses learning as the basis for the design of classroom instruction. By applying learning theories, teachers can improve their own unit development, lessons plans, assessment strategies, and the use of technology for effective teaching. Deals with the impact of cognitive educational research on the subject content and what is known about how people learn. Teachers will learn to critically evaluate and improve their own educational practices, design principled and appropriate assessments based on their instructional goals, and to assess their own professional development.

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.

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.

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.

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.

6215 Psychology of Early Childhood Development (3)
Prerequisite: Ed Psy 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.

6220 Psychology of the Elementary School Child (3)
Prerequisite: Ed Psy 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.

6225 The Psychology of Adolescence (3)
Prerequisite: Ed Psy 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.

6230 Adult Learning and Development (3)
Prerequisites: Ed Psy 6210 or Ed Psy 6111, or Adu Ed 6410. (Same as Adu Ed 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.

6310 Psychology of Learning Processes (3)
Prerequisite: Ed Psy 6111. Advanced study of learning and instructional theories. The historical and theoretical bases of instructional practice are examined

6404 Seminar (1-10)

6440 Moral Development and Education (3)
Prerequisites: Ed Psy 6210 or Ed Psy 6220 or Ed Psy 6225 or consent of the instructor. An introduction and overview of moral psychology and its implications for creating learning environments. Questions of human morality are by nature cross-disciplinary, and readings and discussions will involve questions of epistemology, human nature, conceptions of "the good life," evidence for the malleability of human development, and research regarding the foundation, nature, and complexity of moral development.

6444 Cognition and Technology (3)
Prerequisites: Ed Psy 6111 or consent of instructor. (same as Ed Tec 6444). Examines cognitive theories and computer-based tools for learning. Students will gain a critical understanding of the relationship between the design of technological tools, the use of those tools in educational settings, and their implications for learning.

6445 Character Education and Development (3)
Prerequisites: Ed Psy 6111 and Ed Psy 6220 or Ed Psy 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.

6448 Technology-Supported Inquiry Learning (3)
Prerequisites: Ed Tec 5340 & Ed Psy 6310, or consent of instructor (same as Ed Tec 6448). 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.

6450 Advanced Methods in Character Education (3)
Prerequisite: Ed Psy 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.

6497 Problems (1-10)

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.

6532 Psycho-Educational Differences in Childhood (3)
Prerequisite: Ed Psy 6210 or Ed Psy 6220 or Ed Psy 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.

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.

6536 Biological Factors Influencing Human Behavior (3)
Prerequisite: Ed Psy 6111 or Ed Psy 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.

6540 Psycho-Educational Interventions in Childhood (3)
Prerequisites: Ed Psy 6530 and Ed Psy 6532 or Cns Ed 6000 or consent of instructor. Examination and evaluation of educational and mental health interventions delivered in schools and related settings, with emphases on primary prevention and systems perspectives.

6545 Consultation in Schools and Related Settings (3)
Prerequisite: Ed Psy 6530 or Cns Ed 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.

6550 Professional Issues in School Psychology (3)
Prerequisites: Ed Psy 6530. Advanced examination of professional issues facing school psychologists including legal and ethical considerations, standards of practice, and alternative models of service delivery.

6590 School Psychology Practicum (3-6)
Prerequisites: Grade B- or better in Ed Rem 6718, Ed Psy 6550, Ed Psy 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. May be repeated.

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.

7640 Changing Perspectives in Educational Psychology (3)
Prerequisites: Ed Psy 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.

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.

7644 Motivation Theory in Education (3)
Prerequisites: Ed Psy 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.

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.

Educational Research and Evaluation Methods (Ed Rem)

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.

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.

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.

6040 Teacher Research (3)
Prerequisites: Tch Ed 6010 and Tch Ed 6020. (Same as Tch Ed 6040) This course provides the knowledge, skills, and practice for experienced practitioners to engage reflectively in a process of systematic study of their own practice with educational systems and situated contexts. Educators will learn both analytic and practical tools to document multiple factors that can impact student learning and become more sophisticated consumers of research in order to engage in student advocacy and influence policy decision-making.

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.

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.

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.

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.

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.

6710 Educational Research Methods and Design (3)
Prerequisite: An introductory statistics course or Ed Rem 6707, or 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.

6712 Survey Research Methods in Education (3)
Prerequisite: An introductory statistics course and Ed Rem 6710 or consent of instructor. Same as Political Science 6406 and Soc 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.

6714 Action Research in Education (3)
Prerequisite: Ed Rem 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.

6716 Psycho-Educational Assessment I (3)
Prerequisite: Ed Rem 6707 or Ed Rem 6709, or Ed Rem 3721, and consent of instructor. Instruction is provided in the administration, scoring, interpretation, and reporting of results of individual and group tests of psychomotor ability, academic achievement, and oral language skills.

6718 Psycho-Educational Assessment II (3)
Prerequisites: Ed Psy 6716, or Cns Ed 6050, and consent of instructor. An advanced assessment course for school psychologists that provides training in the administration and use of individual tests of cognitive abilities, diagnostic interviewing, functional assessment, and social -emotional assessment with an emphasis on writing integrated reports with meaningful recommendations.

6720 Nonparametric Statistics in Education (3)
Prerequisite: Ed Rem 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.

6730 Educational Program Evaluation (3)
Prerequisites: Admission to doctoral education and Ed Rem 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.

6732 Advanced Theory and Practice in Educational Program Evaluation (3)
Prerequisites: Ed Rem 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.

6735 Statistical Analysis for Education Research (3)
Prerequisites: Graduate standing.
Provides students with a fundamental and intermediate understanding of quantitative methods and their relationship to social science research in education. This course is designed to provide statistical background to students who will pursue advanced degrees in education. Students will conduct lab data analysis based on the topics covered in the class and learn how to generate specific research questions and conduct basic statistical analyses.

6750 Advanced Research Design in Education (3)
Prerequisites: Ed Rem 6735 or consent of instructor. This course is designed to provide students with a thorough background in the fundamental principles of research design in education, and the knowledge and skills necessary to design and carry out studies appropriate to a wide variety of research problems. It focuses on tailoring the research design and methodology to most effectively address the problem or issue of concern, including qualitative, quantitative, and mixed-method designs. This is an experiential course designed around active discussion

by students each week, and requires each student to develop a detailed research proposal for conducting a study to examine an appropriate educational research problem.

6910 Teacher Research Capstone (3)
Prerequisites: Completion of Tch Ed/Ed Rem 6040 and all but the last 6 hrs of M.Ed. program. (Same as Tch Ed 6910) This course applies the research knowledge, skills, and practice of experienced practitioners to a final research project that results from reflectively evaluating their own practice within educational systems and situated contexts. Educators will use both analytic and practical tools to research multiple factors that impact their own students learning. The final project will be presented to the faculty and students in the College of Education and displayed in a public forum as a capstone project for the M.Ed.

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

7711Advanced Test Theory in Education (3)
Prerequisite: Admission to doctoral education and Ed Rem 6707, or Ed Rem 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.

7771 Quantitative Research Methods I (3)
Prerequisites: Admission to doctoral education and Ed Rem 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.

7772 Quantitative Research Methods II (3)
Prerequisite: Ed Rem 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.

7773 Quantitative Research Methods III (3)
Prerequisite: Ed Rem 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.

7781 Qualitative Methods in Educational Research I (3)
Prerequisites: Admission to doctoral education and Ed Rem 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.

7782 Qualitative Methods in Educational Research II (3)
Prerequisite: Ed Rem 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.

Division of Teaching and Learning

Faculty

Gayle Wilkinson, Chair, Associate Professor*
Ed.D., University of Illinois
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
Wendy Saul, Dr. Allen B. and Mrs. Helen S. Shopmaker Endowed Professor for Education in collaboration with Springboard to Learning
Ph.D., University Wisconsin-Madison
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 Emeritus 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
Helene J. Sherman, Associate Dean, Professor*
Ed.D., University of Missouri-St. Louis
Blanche M. Touhill, Professor*; Chancellor Emerita
Ph.D., Saint Louis University
Paul D. Travers, Professor Emeritus*
Ed.D., George Peabody College
Doris A. Trojcak, Professor Emerita*
Ed.D., Indiana University
Harold E. Turner, Professor Emeritus*
Ed.D., George Peabody College
Judith Walker de Felix, Professor*, Associate Provost 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
Dianne Ferguson, Associate Professor
Ph.D., Syracuse University
Kevin Fernlund, Associate Professor
Ph.D., University of New Mexico
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
Joseph L. Polman, Associate Professor
Ph.D., Northwestern University
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
George J. Yard, Associate Professor Emeritus*
Ph.D., Saint Louis University
Susan Catapano, Assistant Professor
Ed.D., Nova. Southeastern University
Karen Hagrup, Assistant Professor
PhD., University of North Carolina
Jacquelyn A. Lewis-Harris, Assistant Professor
Ph.D., Washington University
Virginia L. Navarro, Assistant Professor*
Ph.D., Washington 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
Lynn Navin, Lecturer; Director, University Child Development Center
M.Ed., Michigan State University

* members of Graduate 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 in 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, 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 College of Education 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.

At the graduate level, the division provides a program leading to an M.Ed in secondary education with emphasis in: general secondary education; curriculum and instruction; secondary education with emphasis in reading; and secondary education and certification.

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.

Minor in Literacy
A Minor in Literacy can be earned by successfully completing 18 hours of the following:

Tch Ed 3315, Literacy Learning and Instruction
Tch Ed 4391, Teaching Reading in Secondary School Content Areas
Ech Ed 3332, Literacy Learning and Instruction for the Young Child
Ele Ed 3289. Elementary Education Professional Internship
Ele Ed 3330, Literacy, Literature and the Learner
Ele Ed 3336, Communication Arts Learning and Instruction
Ele Ed 3389, Classroom Based Assessment to Guide Literacy Instruction
Ele Ed 4387, Promoting the Language and Literacy Development of Children Living in Poverty

Minor in Mathematics Education K-5
A Minor in Mathematics Education can be earned by successfully completing 18 hours in the mathematics education field. The following mathematics education courses may be applied to Mathematics Education Minor.

Ele Ed 4246, Teaching Mathematics in the Elementary School

Ele Ed 4342, Teaching Remedial Mathematics
Ele Ed 4346, Advanced Methods in Elementary School Mathematics
Mid Ed 4246, Teaching Mathematics in the Middle School
Ech Ed 4346, The Acquisition of Mathematical Concepts
Ed Tec 5301, Introduction to Computers and the Internet in Education

Mathematics courses (except 1030, 1150 & 2510) with consent of advisor.

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 1100 with a C or better.
- Complete Mathematics 1030 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 3100, 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 3312/Tch Ed 3312,** The Psychology of Teaching and Learning (3 hours)
- **Communication 1040,** Introduction to Public Speaking (3 hours)
- **6 hours in Psychology or Educational Psychology numbered 3000 or higher**
- **Ed 2290,** Internship (6 hours)
- **Ed 2291,** Internship (6 hours)
- At least one of the following:
- **Phy Ed 3282,** Physical Growth and Motor Development (3 hours)
- **Ed Psy 211,** Growth and Development, **Ed Psy/Tch Ed 2212,** (3 hours), Introduction to learners and Learning (3 hours), or equivalent
- **Psy 2272),** Adult Development and Aging (3 hours; same as Gerontology 2272)

Emphasis in Early Childhood

One of the following two:

- **Tch Ed 2211,** Introduction to American Schools (3 hours or equivalent)
- **Phy Ed 3282,** Physical Growth and Motor Development (3 hours)

All of the following:

- **Tch Ed 3313,** Introduction to Learners with Disabilities and Inclusive Education. (3 hours) or equivalent
- **Ech Ed 3303,** Curriculum and Practice Laboratory: Infant/Toddler (1 hour)
- **Ech Ed 3304,** Curriculum and Practice Laboratory: Preschool (1 hour)
- **Ech Ed 3312,** Introduction to Early Childhood Education (3 hours)
- **Ech Ed 3313,** Curriculum and Practice: Infant/Toddler (2 hours)
- **Ech Ed 3314,** Curriculum and Practice: Preschool (2 hours)
- **Ech Ed 4317,** Assessing Individual Needs for Early Childhood Instruction (3 hours)
- **Ech Ed 4331,** Language Acquisition and Development in Early Childhood (3 hours)
- **Ech Ed 3332,** Literacy (3 hours)

- **Ech Ed 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 1131,** Human Physiology and Anatomy I (4 hours)
- **Bio 1141,** Human Physiology and Anatomy II (4 hours)
- **Phy Ed 3204,** Special Topics in Physical Education (1-3 hours)
- **Phy Ed 3283,** Kinesiology (3 hours)
- **Phy Ed 3284,** Physiology of Human Exercise (3 hours)
- **Phy Ed 3285,** Sports Medicine (3 hours)
- **Phy Ed 3287,** Seminar in Exercise Science (3 hours)

At least 6 credits from the following:
- **Phy Ed 3261,** Physical Activity for the Exceptional Learner (2 hours)
- **Phy Ed 3275,** Psychological Aspects of Physical Education
- **Phy Ed 5330,** Prescribing Physical Activity (3 hours)
- **Phy Ed 5931,** Adult Exercise Leadership (3 hours)
- **Phy Ed 5380,** Nutrition for Human Performance (3 hours)

Total 27-29 hours
Second concentration: Electives to total 12 hours to be chosen from Bio, Chem, Phys, Psy, Geron, or an area chosen in consultation with the adviser.

Emphasis in Professional Education Studies
27 hours in one of the following, numbered 3000 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.

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.

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 1100, Composition
English 3100 or 3120, Advanced Expository Writing

Communication: 3 hours

Mathematics (3 hours)
Math 1150, Structure of Mathematical Systems I

Biological Science: includes lab (5 hours)
General Biology 1012/1013(001/Lab)
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 1003, General Psychology
PolSci 1100, Introduction to American Politics, or equivalent
and one of the following history courses
His 1001, American Civilization
His 1002, American Civilization
and the following courses:
Pol Sci 1850, Global Ecology
Soc 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 2210, Introduction to Teaching
Tch Ed 2211, Introduction to American Schools
Tch Ed 2212, Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education
Tch Ed 3310, Introduction to Instructional Methods
Tch Ed 3312, Psychology of Teaching and Learning
Tch Ed 3313, Introduction to Learners with Disability and Inclusive Education
Tch Ed 3315, Literacy Learning and Instruction
Phy Ed 3430, Elements of Health Education
Ech Ed 3312, Introduction to Early Childhood Education
Phy Ed 3282, Physical Growth and Motor Development

Level III: Synthesizing Theory and Practice in Educatio
Ele Ed 3330, Children's Literature and Reading
Ele Ed 3336, Teaching Language Arts and Reading, N-9

plus these **Early Childhood Education (Ech Ed)** courses:
Note: Ech Ed 4990 and Ech Ed 4991 must be taken during the same semester.
4317, Assessing Individual Needs for Early Childhood
3332, Early Literacy
4346, The Acquisition of Mathematical Concepts
3313, Curriculum and Practice: Infant/Toddler
3314, Curriculum and Practice: Preschool
4989, Early Childhood Primary Internship
3303, Curriculum and Practice Laboratory: Infant/Toddler
3304, Curriculum and Practice Laboratory: Preschool
4990, Student Teaching in Early Childhood Education I (6 hrs)
4991, 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, Early Childhood Education Emphasis

The M.Ed. program with an emphasis in early childhood education is designed to enable candidates to further their competencies as teachers or program administrators in public and private early childhood program. The program also prepares them for positions in community agencies that support families and young children. The minimum required and recommended courses are as follows. Students must complete the Required Core Competencies and Capstone Course as above.

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 1100, Freshman Composition
English 3100, Advanced Expository Writing
*Communication 1040, Introduction to Public Speaking
Mathematics (6 hours)
Math 1150, Structure of Mathematical Systems I
Mathematics 2510, Structure of Mathematical Systems II
Biological Science: includes lab (5 hours)
***General Biology 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 1003, General Psychology
Pol Sci 1100, Introduction to American Politics, or equivalent
And one of the following history courses:
His 1001, American Civilization
His 1002, American Civilization
Pol Sci 1850, Global Ecology
Soc 1010, Introduction to Sociology, or any anthropology course.
Econ 3052, Microeconomics for the School Curriculum

Program Requirements

Level I: Exploring Education as a Profession
Tch Ed 2210, Introduction to Teaching
Tch Ed 2211, Introduction to American Schools
Tch Ed 2212, Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education
Tch Ed 3310, Introduction to Instructional Methods
Tch Ed 3312, Psychology of Teaching and Learning
Tch Ed 3313, Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 3315, Literacy Learning and Instruction

Level III: Synthesizing Theory and Practice in Education
Ele Ed 3330, Children's Literature and Reading
Ele Ed 3336, Teaching Language Arts and Reading N-9
Must take the following three courses during the same semester as Professional Internship (Ele Ed 3289).
Ele Ed 4246, Teaching Mathematics in the Elementary School

Ele Ed 4253, Teaching Social Studies in the Elementary School
Ele Ed 4341, Teaching of Science in the Elementary School
Ele Ed 4989, Elementary Education Professional Internship
Ele Ed 4990, Elementary School Student Teaching I
Ele Ed 4991, Elementary School Teaching II

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.

Middle School/Junior High (5-9)
General education requirements are the same as for elementary education.

Related Area Requirements
Phy Ed 3430, Elements of Health Education
Phy Ed 3465, Physical Education Activities for the Elementary School
Ele Ed 2177, Elementary School Music
Ele Ed 2179, Art Activities for Elementary School

Program Requirements
Tch Ed 2211, Introduction American Schools
Ed Psy 3312, Psychology of Teaching and Learning

Tch Ed 2213, Instruction to Learners with Disabilities and Inclusive Education and these **Elementary Education (Ele Ed)** courses:
Ele Ed 4246, Teaching Mathematics in the Elementary School
Ele Ed 4253, Teaching of Social Studies in the Elementary School
Ele Ed 4990, Elementary School Student Teaching I
Ele Ed 4991, Elementary School Student Teaching II
Ele Ed 3330, Children's Literature and Reading
Ele Ed 3336, Teaching Language Arts and Reading, N-9
Ele Ed 4341, Teaching of Science in the Elementary School
Ele Ed Teaching Reading in the Elementary School
Ele Ed 3389, The Analysis and Correction of Reading Problems in the Classroom
***Note** Ele Ed **4990** and Ele Ed **4991** must be taken during the same semester.
Postdegree certification students may take Ed Fnd 4330, History of American Education, or Ed Fnd 6421, Philosophy of Education, in lieu of Tch Ed 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 3430, Teaching Health in the Elementary School

Program Requirements
Level I: Exploring Education as a Profession
Tch Ed 2210, Introduction to Teaching
Tch Ed 2211, Introduction to American Schools
Tch Ed 2212, Introduction to Learners and Learning

Level II: Analyzing the Nature and Process of Education
Mid Ed 4315, The Middle Level School
Mid Ed 4316, Middle Level Curriculum and Instruction
Tch Ed 3310, Introduction to Instructional Methods
Tch Ed 3312, The Psychology of Teaching and Learning
Tch Ed 3313, Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 4391, Teaching Reading in the Secondary School Content Area

Level III: Synthesizing Theory and Practice in Education
Ele Ed 3389, Classroom Based Assessment to Guide Literacy Instruction
Sec Ed 4880, Writing for Teachers
Mid Ed 4317, The Middle level Child
Mid Ed 4989, Middle Level Internship
Mid Ed 4317 & Mid Ed 3289 should be taken concurrently.

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 3336, Teaching Language Arts and Reading, N-9
Mid Ed 4253, Teaching of Social Studies in the Middle School
Mid Ed 4246, Teaching Mathematics in the Middle School
Ele Ed 4341, Teaching of Science in the Elementary School
Ele Ed 4291, 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. program in elementary education has a general program option, an emphasis in reading option, and an early childhood education option. All options consist of an initial required core of courses; a concentration area; an optional specialization area; a teacher research course; and a capstone or exit course. Areas of specialization are suggested below. A minimum of 33 hours is required for the degree; additional hours may be necessary for reading specialist certification.

1) Required Core (9 hours)
Students are required to complete the following courses within the first 15 hours of study.
Tch Ed 6010, Examining History, Community, and Social Justice in Education (3 hours)
Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours)
Tch Ed/Ed Psy 6030, Instruction, Learning & Assessment (3 hours)
2) Required Research Course (3 hours)
Ed Rem/Tch Ed 6040, Teacher Research (3 hours)

3) Elementary Education Concentration (12-18 hours)
A curriculum course (required): Ele Ed 6410 Current Research in the Elementary School Curriculum
Students should select at least 9 additional hours in one or more of the following areas: children's literature, early childhood, language arts, mathematics education, reading, science education, social studies education, special education, physical education, educational technology, curriculum development, improvement of instruction, or another area as identified in consultation with the faculty advisor.

4) Specialization Areas (Optional; 6 hours)
Students may follow one of the core competency courses with two additional courses to develop an area of specialization, such as:
Educational Psychology Option: Ed Psy/Tch Ed 6030 followed by either Ed Psy 6210 Life-Span: Individual and Family Development or Ed Psy/Ed Tec 6448 Technology Supported Inquiry Learning (3 hours each) and one of the following Ed Psy courses: 6210, Life-Span: Individual & Family Development: 6215, Psychology of Early Childhood Development; 6220, Psychology of the Elementary School Child; or 6225, The Psychology of Adolescence (3 hours each) Educational Technology Option: Tch Ed/Ed Psy 6030 followed by Ed Tec 5340 Selection and Utilization of Educational Multimedia and Ed Tec 6452 Educational Multimedia Design
Other specialization areas are available and information is available in the Graduate Education and Teaching & Learning Division office.

5) Capstone Course (3 hours)
Students must enroll in the capstone course during their last semester. Tch Ed/Ed Rem 6910 Teacher Research Capstone (3 hours)

Emphasis in Reading
The M.Ed. program with emphasis in reading (literacy) is designed to enable candidates to further their competencies as teachers of reading, writing, and the other communication arts. The program also prepares them for positions as literacy coaches, reading specialists, curriculum specialist in communication arts and reading areas, consultants in areas of communication arts, and/or for further graduate study. The following program enables the student to earn a M.Ed. with an emphasis in Reading while fulfilling the Department of Elementary and Secondary Education's requirements for special reading certification in Missouri. The minimum required and recommended courses are as follows. Students must complete the Required Core, Research Course, and Capstone Course as above.

Elementary Education-Emphasis in Reading Concentration (18 hours):
Ele Ed 6482, Problems and Research in Teaching Elementary School Reading
Ele Ed 6486 (6686), Literacy Assessment to Guide Instruction I
Ele Ed 6688, Literacy Assessment to Guide Instruction II
Ele Ed 6493, Reading Specialist Practicum I
Ele Ed 6494, Reading Specialist Practicum II

And at least one of the following (min.3 hrs):
Ele Ed 6630, Communication Arts Instruction
Ele Ed 6436, Children's Literature I: Survey & Analysis
Ele Ed 6684, Instructional Strategies for Teaching Reading
Ele Ed 6487, Literacy Acquisition & Learning in a Diverse Society
Eng 5880/Tch Ed 6880, Gateway Writing Project (6 hrs)
Tch Ed 4391, Teaching Reading in Secondary School Content Areas*

To be recommended for Missouri Department of Elementary and Secondary Education special reading certification, teachers must have a valid Missouri teacher's certificate and two years of classroom teaching experience, and they must have had the following at either the undergraduate or graduate level: two additional courses in reading; language acquisition or development; classroom management techniques; counseling techniques (to include exceptional children and their families: child

AND adolescent psychology; and testing, evaluation, and achievement. See your graduate advisor for information about these courses.

M. Ed. Students needing any of the above can elect to take these courses at the graduate level where available and apply them to their concentration area.

Relevant Elective Courses – Reading Emphasis
Cns Ed 6040, **Foundations for Multicultural Counseling**
Ed Psy 6210, **Life-Span: Individual & Family Development**
Ed Psy 6225, **The Psychology of Adolescence**
Ed Rem 6707, **Classroom Measurement & Evaluation**
Spc Ed 6416, **Current Research in Psychology of Learners with Disabilities**
Spc Ed 6441, **Curriculum & Teaching for Diverse Learners & Students with Disabilities**
Spc Ed 6452, **Social, Emotional, and Environmental Supports for Learners with Disabilities**
*Only one 4000 level course can be applied to the M.Ed.

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 1000 to 3000 levels and only one 4000 level course can be applied to an M.Ed. degree.

Elementary Education-Emphasis in Early Childhood Education Concentration (12 hours)
Required:
Ech Ed 6412, Foundations of Early Childhood Education (3)
Ech Ed 6413, The Educational Role of Play (3)
Ech Ed 6415, Organization and Development of Early Childhood Programs (3)
Ed Psy 6215, Psychology of Early Childhood Development (3)

Elective hours (6 hours)

Total: 33 hours

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 1100, Freshman Composition
English 3100, Advanced Expository Writing or equivalent
Communication, 1030 or 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 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

Level I: Exploring Education as a Profession

The following physical education (Phy Ed) courses and professional education courses are required (16 hrs) and must be completed before advancement to Level II:
Phy Ed 3280, Human Anatomy and Physiology (5 hrs)

Phy Ed 3277, Historical/Philosophical Foundations of Physical Education and Sport (2 hrs)
Tch Ed 2210, Introduction to Teaching (3 hrs)
Tch Ed 2211, Introduction to Schools (3 hrs)
Tch Ed 2212, Introduction to Learners (3 hrs)

Level II: Analyzing the Nature and Process of Education

The following physical education (Phy Ed) courses and professional education courses are required (27 hrs) before enrollment in any Level III courses:
Phy Ed 3267, Performance Analysis in Physical Education (3 hrs)
Phy Ed 3275, Psychological Aspects of Physical Education (3 hrs)
Phy Ed 3282, Physical Growth and Motor Development (3 hrs)
Phy Ed 3283, Kinesiology (3 hrs)
Phy Ed 3284, Physiology of Human Exercise (3 hrs)
Phy Ed 3285, Sports Medicine (3 hrs)
Tch Ed 3312, Psychology of Teaching and Learning (3 hrs)
Tch Ed 3313, Introduction to Learners with Disabilities and Inclusive Education (3 hrs)
Tch Ed 3386, Teaching Reading in Secondary School Content Areas (3 hrs)

The following physical education courses are required (9 hrs) and can be taken concurrently with Level III courses:
Phy Ed 3434, Teaching of Wellness and Health Related Fitness (4 hrs)
Phy Ed 3261, Physical Activity for the Exceptional Learner (2 hrs)
Phy Ed 3468, The Curriculum and Methods of Teaching Physical Education (3 hrs)

Level III: Synthesizing Theory and Practice in Education

The following physical education (Phy Ed) courses are required (26 hrs):

Phy Ed 3422, Teaching of Skills: Grade PK-4 (4 hrs)
Phy Ed 3423, Teaching of Skills: Grades 5-9 (4 hrs)
Phy Ed 3425, Teaching of Skills: Movement, Dance and Rhythms (3 hrs)
Phy Ed 4989, Physical Education Professional Internship (3 hrs)
Phy Ed 4990, Student Teaching in Physical Education PK-5 (6 hrs)
Phy Ed 4991, Student Teaching in Physical Education 5-9 (6 hrs)

Total: 126 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-.

Grades PK through 12 Emphasis

Level I: Exploring Education as a Profession
The following physical education (Phy Ed) courses and professional education courses are required (16 hrs) and must be completed before advancement to Level II:
Phy Ed 3280, Human Anatomy and Physiology (5 hrs)
Phy Ed 3277, Historical/Philosophical Foundations of Physical Education and Sport (2 hrs)
Tch Ed 2210, Introduction to Teaching (3 hrs)
Tch Ed 2211, Introduction to Schools (3 hrs)
Tch Ed 2212, Introduction to Learners (3 hrs)

Level II: Analyzing the Nature and Process of Education

The following physical education (Phy Ed) courses and Professional education courses are required (29 hrs) Before enrollment in any Level III courses:
Phy Ed 3267, Performance Analysis in Physical Education (3 hrs)
Phy Ed 3275, Psychological Aspects of Physical Education (3 hrs)
Phy Ed 3276, Sociological Foundations of Physical Education and Sport (2 hrs)
Phy Ed 3282, Physical Growth and Motor Development (3 hrs)
Phy Ed 3283, Kinesiology (3 hrs)
Phy Ed 3284, Physiology of Human Exercise (3 hrs)
Phy Ed 3285, Sports Medicine (3 hrs)
Tch Ed 3312, Psychology of Teaching and Learning (3 hrs)
Tch Ed 3313, Introduction to Learners with Disabilities and Inclusive Education (3 hrs)
Tch Ed 3386, Teaching Reading in Secondary School Content Areas (3 hrs)

The following physical education courses are required (9 hrs) and can be taken concurrently with Level III courses
Phy Ed 3434, Teaching of Wellness and Health Related Fitness (4 hrs)
Phy Ed 3261, Physical Activity for the Exceptional Learner (2 hrs)
Phy Ed 3468, The Curriculum and Methods of Teaching Physical Education (3 hrs)

Level III: Synthesizing Theory and Practice in Education

The following physical education (Phy Ed) courses are Required (30 hrs):
Phy Ed 3422, Teaching of Skills: Grades PK-4 (4 hrs)
Phy Ed 3423, Teaching of Skills: Grades 5-9 (4 hrs)
Phy Ed 3424, Teaching of Skills Grades 9-12 (4 hrs)
Phy Ed 3425, Teaching of Skills: Movement, Dance

And Rhythms (3 hrs)
Phy Ed 4989, Physical Education Professional Internship (3 hrs)

Two of the following three:
Phy Ed 4990, Student Teaching in Physical Education PK-5 (6 hrs)
Phy Ed 4991, Student Teaching in Physical Education 5-9 (6 hrs)
Phy Ed 4992, Student Teaching in Physical Education 9-12 (6 hrs)

Minimum: 132 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 3283, Kinesiology
Phy Ed 3424, Teaching of Skills: Grades 9-12
Phy Ed 5312, Management of Sports Programs
Phy Ed 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

Tch Ed 2210, Introduction to Teaching
Tch Ed 2211, Introduction to Schools
Tch Ed 2212, Introduction to Learners

Level II: Analyzing the Nature and Process of Education

Tch Ed 3310, Introduction to Instructional Methods
Tch Ed 3312, Psychology of Teaching and Learning
Tch Ed 3313, Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 4391, Teaching Reading in Secondary School Content Areas
Level III: Synthesizing Theory and Practice in Education

Sec Ed 32xx, Curriculum and Methods of Teaching (specific subject area)
Sec Ed 4989, Secondary Education Professional Internship
Sec Ed 4990, Secondary School Student Teaching

Note: **Sec Ed 4989** Secondary Education Professional Internship and **Sec Ed 4xxx,** Curriculum and Methods of Teaching (specific subject area) must be taken in the same semester and in the semester immediately preceding **Sec Ed 4990,** Secondary School 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- or better are required in all courses in the teaching field.

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:

Note: Music education students take the following courses Sec Ed 3293, Student Teaching in Music Education K-6, and Sec Ed 3294, Student Teaching in Music Education 7-12. These two courses must be taken during the same semester.

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. They must meet these minimum social science requirements: American history, 12 hours including History/Sec Ed 3257; European or world history, 9 hours including History/Sec Ed 3258; United States and/or state government, 6 hours including Political Science/Sec Ed 3209; economics, 3 hours; geography, 3 hours; and 2 hours of elective social studies credit. For emphasis area advising see the History Department.

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 3380, Philosophy of Science
Biology
1811, Introductory Biology I
1821, Introductory Biology II
1111, Introductory Chemistry I
1112, Introductory Chemistry II
Geology 1001, General Geology
Atmospheric Science 1001, Elementary Meteorology
Biology 1202, Environmental Biology or another environmental science

Physics
1011, Physics: Mechanics and Heat
1012, Physics: Electricity, Magnetism, and Optics
Physics Endorsement
Physics
3200, Survey of Theoretical Physics
3221, Mechanics
3223, Electricity and Magnetism
3231, Introduction to Modern Physics
4310, Modern Electronics
4311, Advanced Physics Laboratory I
3232, or Education **3240,** Methods of Teaching Science in Secondary Schools
Physics 4833, Teaching Intern Seminar

Graduate Studies

The M.Ed. program in secondary education has general program, curriculum and instruction, or reading options. All consist of an initial required core of courses; an opportunity to develop an area of specialization; an opportunity for study in the teaching field; and a capstone or exit course. Areas of specialization are suggested below. A minimum of 33 hours is required for the

general program, curriculum and instruction, and adult education and reading options.

Master of Education: Secondary Education
The M.Ed. general program is appropriate for secondary teachers and department chairpersons. Programs must be planned with the academic adviser and meet the approval of the advisor, College, and Graduate School.

1) Required Core (9 hours)
Students are required to complete the following courses within the first 15 hours of study.
Tch Ed 6010, Examining History, Community, and Social Justice in Education (3 hours)
Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours)
Tch Ed/Ed Psy 6030, Instruction, learning & Assessment (3 hours)

2) Required Research Course (3 hours)
Ed Rem/Tch Ed 6040, Teacher Research (3 hours)

3) Teaching Field Concentration (12-18 hours)
A curriculum course (required): Sec Ed 6415, The Secondary School Curriculum. Students should select at least 9 hours in their teaching field (mathematics; chemistry; biology; physics; social studies; English; physical education; speech and theatre; educational technology or other) or in secondary education, as identified in consultation with the faculty advisor.

4) Specialization Areas (Optional: 6 hours)
Students may follow one of the core competency courses with two additional courses to develop an area of specialization, such as:
Educational Technology Option: Tch Ed/EdPsy 6030 followed by Ed Tec 5340, Selection and Utilization of Educational Multimedia and Ed Tec 6452, Educational Multimedia Design
Educational Psychology Option, Tch Ed/Ed Psy 6030 followed by either Ed Psy 6210, Life-Span: Individual and Family Development or Ed Psy/Ed Tec 6448, Technology Supported Inquiry Learning (3 hours each) and one of the following Ed Psy courses: 6210, Life-Span: Individual & Family Development; 6215, Psychology of Early Childhood Development; 6220, Psychology of the Elementary School Child; or 6225, The Psychology of Adolescence (3 hours each) Teaching of Writing Option, Tch Ed/Ed Psy 6030 followed by Tch Ed 5850, Topics in the Teaching of Writing *and* Tch Ed 6890, Seminar in Professional Writing for Teachers; *or* Tch Ed 6880, Gateway Writing Project (6)
Other specialization areas are available and information is available in the Graduate Education and Teaching & Learning Division offices.

5) Capstone Course (3 hours)
Students must enroll in the capstone course during their last semester. Tch Ed/Ed Rem 6910, Teacher Research Capstone (3 hours)

Master of Education: Secondary Education with Emphasis in Curriculum and Instruction

The M.Ed. with an emphasis in curriculum and instruction is designed for graduate students who wish to further their competencies as teacher or curriculum specialist or instructional leaders.

1) Required Core requirements (9 hours)
Students are required to complete the following courses within the first 15 hours of study.
Tch Ed 6010, Examining History, Community, and Social Justice in Education (3 hours)
Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours)
Tch Ed/Ed Psy 6030, Instruction, learning & Assessment (3 hours)

2) Required Research Course (3 hours)
Ed Rem/Tch Ed 6040, Teacher Research (3 hours)

3) Curriculum and Instruction Core (9 hours)
Sec Ed 6415, The Secondary School Curriculum
Sec Ed 6420, The Improvement of Secondary School Teaching
Sec Ed 6416, Curriculum Construction for Secondary Schools

4) Specialization Areas (Optional: 6 hours)
Same as above

5) Electives (3-9 hours)
Students can elect hours in their teaching field or other areas of secondary education. The following are suggested:
Ed Fnd 6421, Philosophy of Education
Ed Fnd 6422, Analysis of Educational Issues
Ed Fnd, 6435, History of Western Education

6) Capstone Course (3 hours)
Students must enroll in the capstone course during their last semester.
Tch Ed/Ed Rem 6910, Teacher Research Capstone (3 hours)

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. Adult basic education practitioners can complete course requirements for certification within the scope of or independent from the master's degree program. Note: New students should

enroll in the Master of Education: Adult and Higher Education Program.

1) Required Core (9 hours)
Students should complete the following courses within the first 15 hours of study. Tch Ed 6010, Examination of History & Community in Teaching for Social Justice (3 hours) or Adu Ed 6410, The Adult Learner Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours) or Adu Ed 6413, Improvement of Instruction in Adult Education Tch Ed/Ed Psy 6030, Instruction, Learning & Assessment (3 hours) or Adu Ed 6419, Adult Learning and Development

2) Research Course (3 hours)
Ed Rem/Tch 6040, Teacher Research (3 hours) or another research course

3) Electives
A curriculum course (required), such as **Adu Ed 6414,** Curriculum Theory & Development in Adult Education
Adu Ed 6411, History of Adult Education
Adu Ed 6412, Philosophical Foundations of Adult Education
Adu Ed 6417, Multicultural Issues in Adult Education
Adu Ed 6420, Survey of Human Resource Development & Adult Education
Adu Ed 6426, Coordination of Cooperative Vocational Programs
Adu Ed 6432, Teaching in the Community College
Adu Ed 6435, Problems in Teaching College Biology
Adu Ed 6497, Problems in Adult Education
Adu Ed 6404, Seminar in Adult Education Research
Ed Adm 6601, Administration of Adult and Community Education
Or other electives selected in consultation with the advisor

4) Capstone Course (3 hours)
Adu Ed 6990, Internship in Adult Education

Total: 33 hours

Adult Basic Education Certification
***Adu Ed 4311,** Teaching Basic Reading Skills to Adults
***Ele Ed 6455,** Problems of Teaching Arithmetic in the Elementary School, or Ele Ed 4346, Advanced Methods in Elementary School Mathematics
*Eight semester hours from these six courses and 3 hours of adult education electives, in addition to Spc Ed 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. A holder of 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 public school or an accredited private school and (2) ABE teachers with bachelor's degrees who have experience teaching adults, but do not have regular teaching 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 reading (literacy) is designed to enable candidates to further their competencies as teachers of reading, writing, and other communication arts. The program also prepares them for positions as literacy coaches, reading specialists, curriculum specialists in communication arts and reading areas, consultants in areas of communication arts, and/or for further graduate study. The following program enables the student to earn an M.Ed. with an emphasis in Reading while fulfilling the Department of Elementary and Secondary Education's requirements for special reading certification in Missouri. The minimum required and recommended courses area as follows. Students must complete the Required Core Competencies and Capstone Course as below.

1) Required Core (9 hours)
Students are required to complete the following courses within the first 15 hours of study.
Tch Ed 6010, Examining History, Community and Social Justice in Education (3 hours)
Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours)
Tch Ed/Ed Psy 6030, Instruction, Learning & Assessment (3 hours)

2) Research Course (3 hours)
Ed Rem/Tch Ed 6040, Teacher Research (3 hours)

3) Reading Core (18-21 hours)
Ele Ed 6482, Problems and Research in Teaching Elementary School Reading
Ele Ed 6686, Literacy Assessment to Guide Instruction I
Ele Ed 6688, Literacy Assessment to Guide Instruction II
Ele Ed 6493, Reading Specialist Practicum I
Ele Ed 6494, Reading Specialist Practicum II
And at least one of the following (min. 3 hrs):
Ele Ed 6630, Communication Arts Instruction
Ele Ed 6436, Children's Literature I: Survey & Analysis
Eng 4060, Adolescent Literature*
Ele Ed 6684, Instructional Strategies for Teaching Reading
Ele Ed 6487, Literacy Acquisition & Learning in a Diverse Society
Eng 5880/Tch Ed 6880, Gateway Writing Project (6 hrs)
Tch Ed 4391, Teaching Reading in Secondary School Content Areas*

To be recommended for Missouri Department of Elementary and Secondary Education special reading certification, teachers must have a valid Missouri teacher's certificate and two years of classroom teaching experience, and they must have had the following at either the undergraduate or graduate level: two additional courses in reading; language acquisition or development; classroom management technique; counseling techniques (to include exceptional children and their families): child AND adolescent psychology; and testing, evaluation, and achievement. See your graduate advisor for information about these courses.

M. Ed. Students needing any of the above can elect to take these courses at the graduate level where available and apply them to the concentration area.

Relevant Elective Courses-Reading Emphasis
Cns Ed 6040, Foundations for Multicultural Counseling
Ed Psy 6210, Life-Span: Individual & Family Development
Ed Psy 6225, The Psychology of Adolescence
Ed Rem 6707, Classroom Measurement & Evaluation
Spc Ed 6416, Current Research in Psychology of Learners with Disabilities
Spc Ed 6441, Curriculum & Teaching for Diverse Learners & Students with Disabilities
Spc Ed 6452, Social, Emotional, and Environmental Supports for Learners with Disabilities

*Check with your advisor regarding limits on the number of 4000 level courses that can be applied to the Master's degree.

4) Capstone Course (3 hours)
Students must enroll in the capstone course during their last semester.
Tch Ed/Ed Rem 6910, Teacher Research Capstone (3 hours)

Master of Education: Secondary Education and Certification
Those holding a baccalaureate degree or major in the teaching field who would like to pursue initial teacher preparation and a Master's degree, can take the following program. The exact number of hours depends upon hours needed by the student to meet certification requirements in the chosen teaching field.

1) Required Teacher Certification Courses at the Graduate Level (17 hours)

Tch Ed 5311, Foundations in Education (4)
Ed Psy 6109, Learning and Development in Educational Environments (4)
Tch Ed 5310, Instructional Design (3)
Tch Ed 5313, Introduction to Learners with Disabilities and Inclusive Education (3)
Tch Ed 4391, Teaching Reading in Secondary School Content Areas*

Required Teacher Certification Courses at the Undergraduate Level (19-21 hours)
These courses are not applicable to the Master's degree.
Sec Ed 4xxxx, Curriculum and Methods of Teaching ----- (3)
Sec Ed 4989, Secondary Education Professional Internship (3)
Sec Ed 4990, Secondary School Student Teaching (12)
Sec Ed 4xxxx, Student Teaching Seminar (1-3)

3) Teaching Field Courses (6 hours minimum)

Selected in consultation with advisor. Should be taken at the graduate level when possible. Only graduate credit can be applied to the Master's degree

4) Master of Education Required Core Courses (9 hours)
Students should complete initial teacher certification courses before enrolling in the following.
Tch Ed 6010, Examining History, Community and Social Justice in Education (3 hours)
Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours)
Tch Ed/Ed Psy 6030, Instruction, Learning & Assessment (3 hours)

5) Required Research Course (3 hours)
Ed Rem/Tch Ed 6040, Teacher Research (3 hours)

6) Capstone Course (3 hours)
Students must enroll in the capstone course during their last semester.
Tch Ed/Ed Rem 6910, Teacher Research Capstone (3 hours)

- Check with your advisor regarding limits on the number of 4000 level courses that can be applied to the Master's degree.

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/SecEd 4880, "Writing for Teachers" or an equivalent course in teaching writing
Coursework or competency in basic computer application.

Required Core Courses (12 semester hours)
Eng 4850(TchEd 5850), Topics in the Teaching of Writing (designated topics, 3 sem. hrs.)
Eng 5880/TchEd 6880, Gateway Writing Project (Invitational Institute, 6 sem. hrs.)
TchEd 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 5000 level course.

Suggested electives applicable to an MA in English with writing emphasis:
Eng 5840, Theories of Writing
Eng 5860, Writing/Reading Theory
Eng 5860, Composition Research
Eng 5890, Teaching College Writing
Eng 5800, Modern Linguistics

Suggested electives applicable to an M.Ed. in Elementary or Secondary Education
El Ed 4387, Lang. & Literacy Needs of Diverse Children
El Ed 6430, Problems in Teaching Language Arts
Sec Ed 6430, Problems in Teaching English in Sec. School
El Ed 6432, Research in Language Arts
El Ed 6482, Problems & Research in Elementary Reading
Ed Rem 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 1100, Composition
Communication 1030 or **Communication 1040**
English 3100
Mathematics (3 hours) **1150,** Structure of Mathematical Systems I
Science (8-9 hours)
Biology (Laboratory)
Physical Science (Laboratory)

Humanities (8 hours)
Music 3770, Introduction to Music for the Elementary School Teacher (Recommended) plus two courses from art, music, philosophy, or literature
Social Science (18 hours)
Psych 1003, General Psychology
History 1001, American Civilization, or
History 1002, American Civilization
Pol Sci 1100, Introduction to American Politics
Econ 3052, Microeconomics for the School Curriculum
Sociology 1010, Introduction to Sociology, or
Any Anthropology course
Geography 1001 or **1002**

Related Area Requirements (6 hours)

Phy Ed 3430, Elements of Health Education
Phy Ed 3261, Physical Activity of the Exceptional Learner

Program Requirements (24 hours)
Level I: Exploring Education as a Profession

Tch Ed 2210, Introduction to Teaching
Tch Ed 2211, Introduction to Schools
Tch Ed 2212, Introduction to Learners

Level II: Analyzing the Nature and Process of Education

Tch Ed 3310, Introduction to Instructional Methods
Tch Ed 3312, Psychology of Teaching and Learning
Tch Ed 3313, Introduction to Learners with Disabilities and Inclusive Education
Tch Ed 3315, Literacy Learning and Instruction
Cns Ed 3220, Counseling Individuals with Special Needs
Spc Ed 4315, Speech and Language Problems Exceptional Children
Spc Ed 4342, Transitions Issues and Planning
Spc Ed 3345, Education Programs for Students with Disabilities

Level III: Synthesizing Theory and Practice in Education

Ele Ed 3330, Children's Literature and Reading
Ele Ed 3336, Teaching Language Arts and Reading, N-9
Ele Ed 4342, Addressing Teaching and Learning Needs in Mathematics

Must take the following three courses during the same Semester as Elementary Professional Internship (El Ed 3289).

Ele Ed 4246, Teaching Mathematics in the Elementary School
Ele Ed 4341, Teaching Science in the Elementary School
Ele Ed 4253, Teaching Social Studies in the Elementary School
El Ed 4989, Elementary Education Professional Internship

Must take the following 6 credit hour course during the same semester as Special Education Professional Internship (**Spc Ed 4989**)

Spc Ed 3349, Learning and Social Supports for Students with Disabilities
Spc Ed 4989, Special Education Professional Internship

Note: Ele Ed 4989 must be taken prior to
Spc Ed 4989 Student Teaching
Ele Ed 4990, Student Teaching in Elementary Education
Ele Ed 4991, Student Teaching in Special Education

Note: Ele Ed 4990 and Spc Ed 4991 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
The M.Ed. program in special education consists of an initial required core of courses; an opportunity to develop an area of depth; an opportunity to specialize in special education; and a capstone or exit course. Areas of specialization are suggested below. A minimum of 33 hours is required. 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.

1) Required Core (9 hours)
Students are required to complete the following courses within the first 15 hours of study.
Tch Ed 6010, Examining History, Community, and Social Justice in Education (3 hours)
Tch Ed 6020, Teacher Action, Advocacy & Leadership (3 hours)
Tch Ed/Ed Psy 6030, Instruction, Learning & Assessment (3 hours)

2) Required Research Course (3 hours)
Ed Rem/Tch Ed 6040, Teacher Research (3 hours)

3) Special Education Concentration (9-15 hours)

Students should select either Sequence A or Sequence B below:

A. Early Childhood Sequence (9 hours):
Spc Ed 6462, Introduction to Early Childhood Special Education
Spc Ed 6463, Curriculum, Methods, and Materials for Early Childhood – Special Education
Spc Ed 6410, Families and Schools in Inclusive Communities

B. Cross-Categorical K-12 Sequence (9 hours):
Spc Ed 6440, Disability, Schooling and Culture
Spc Ed 6441, Curriculum & Teaching for Diverse Learners and Students with Disabilities
Spc Ed 6410, Families and Schools in Inclusive Communities

Special Education Concentration Electives (3-9 hours):
Other electives may be chosen from the courses listed below and from other courses with approval of the adviser and division chairperson. Students not choosing a Specialization Area (#4, below) should take 9 hours of Special Education electives.

Spc Ed 6452, Social, Emotional, and Environmental Supports for Learners with Disabilities
Spc Ed 6411, Law, Policy and Bureaucracy in Education and Disability Studies

4) Specialization Areas (Optional; 6 hours)
Students may follow one of the core competency courses with two additional courses to develop an area of specialization, such as:

Educational Technology Option: Tch Ed/Ed Psy 6030, followed by Ed Tec 5340, Selection and Utilization of Educational Multimedia and Ed Tec 6452,Educational Multimedia Design

Educational Psychology Option: Tch Ed/Ed Psy 6030, followed by either Ed Psy 6210, Life-Span: Individual and Family Development or Ed Psy/Ed Tec 6448, Technology Supported Inquiry Learning (3 hours each)and one of the following Ed Psy courses: 6210, Life-Span: Individual & Family Development: 6215, Psychology of Early Childhood Development; 6220, Psychology of the Elementary School Child; or 6225, The Psychology of Adolescence (3 hours each)
Other specialization areas are available and information is available in the Graduate Education and Teaching & Learning Division offices.

5) Capstone Course (3 hours)
Students must enroll in the capstone course during their last semester.
Tch Ed/Ed Rem 6910, Teacher Research Capstone (3 hours)

Total hours: minimum 33 credit hours

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 Foundations (Ed Fnd), Educational Technology (Ed Tec), Elementary Education (Ele Ed), Middle Education (Mid Ed), Physical Education (Phy Ed), Secondary Education (Sec Ed), and Special Education (Spc Ed), and Teacher Education (Tch Ed).

Prerequisites may be waived by consent of the department.

Early Childhood Education (Ech Ed)

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 3313, Curriculum and Practice: Infant/Toddler.

3304 Curriculum and Practice Laboratory: Preschool (1)
Classroom experience in preschool classrooms under direction of university personnel. Must be taken concurrently with Ech Ed 3314, Curriculum and Practice: Preschool.

3305 Curriculum and Practice Laboratory: Primary (1)
Classroom experience in primary classrooms under direction of university personnel. Must be taken concurrently with Ech Ed 4315, Curriculum and Practice: Primary.

3312 Introduction to Early Childhood Education (3)
Prerequisites: Level I and Tch Ed 3310, and Tch Ed 3312. 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.

3313 Curriculum and Practice: Infant/Toddler (2)
Prerequisite: Ech Ed 3312. Focuses on planning integrated curriculum for child from birth to 30 months. Includes working with parents and community resources. Lab required.

3314 Curriculum and Practice: Preschool Education (2)
Prerequisite: Ech Ed 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.

3332 Literacy, Learning and Instruction for the Young Child (3)
Prerequisites: Level I and Level II. Attention on the home language and environment of young children as they construct knowledge of print from birth to age eight. Critical examination of the range of opportunities for early literacy learning available to children from economically advantaged and disadvantaged communities. Emphasis on meaningful, culturally, and developmentally appropriate activities for fostering beginning reading and writing. Focus on strategies for involving families and capitalizing on community resources in promoting language and literacy learning for young children. Eight hours of involvement in an early childhood setting is required. This course may be applied toward a Literacy Minor.

4315 Curriculum and Practice: Primary Education (2)
Prerequisite: Ech Ed 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.

4317 Assessing Individual Needs for Early Childhood Instruction (3)
Prerequisites: Level I and Level II, admission to the teacher education program, Ech Ed 3312. Techniques of observing children and using assessment instruments to plan an individualized program for early childhood. Practicum experience required.

4320 Classroom Management (3)
Prerequisites: Level I and II courses or consent of instructor. (Same as Spec Ed 4320, Ele Ed 4320, Sec Ed 4320.) Understanding classroom management as the development of engaging instruction that establishes healthy teacher-student relationships, builds successful classroom community and enhances student motivation for learning. Participants develop a classroom management plan that includes rules, procedures, expected behaviors and uses problems solving strategies to resolve behavior problems. Emphasis is on establishing social competence of Pre K-12 th grade students within diverse classrooms and engaging families in supportive interactions.

4331 Language Acquisition and Development in Early Childhood (3)
Prerequisite: Ed Psy 3312. Development of language and the effects environmental and cultural factors have on the acquisition process. Identification of language problems for purpose of referral. Includes preschool classroom practices to support language development. Practicum experiences included.

4346 The Acquisition of Mathematical Concepts (3)
Prerequisites: Formal admission to the Teacher Education Program, Ed Psy 3312, and Math 1050. Applications of the major theorists to mathematics reasoning. Content is appropriate for pre-k to third grad learners. Research and its implications for practice in the areas of logical thinking, pre-number ideas, geometry, topology, problem solving and arithmetical operations are considered.

4990 Student Teaching in Early Childhood Education I (6)
Prerequisites: Level II, Ech Ed 3313, Ech Ed 3314, Ech Ed 4989. Must be taken with Ech Ed 3291, and must immediately precede Ech Ed 3291 in the semester. This course is an intensive professional development experience (9 hours per week for 14 weeks) working in primary and/or preschool classroom with students. Activities on site include assisting the classroom teacher in all areas of instruction, assessment, and classroom management. This course is to be taken during the semester immediately preceding student teaching. Not available for graduate credit.

4991 Student Teaching in Early Childhood Education II (6)
Prerequisites: Level II, Ech Ed 3313, Ech Ed 3314, Ech Ed 4989. Must be taken concurrently with Ech Ed4991, and must immediately precede Ech Ed 4991 in the semester. Must follow ECH ED 4990 in the same 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 4990 assignments, Required of all majors in early childhood education. Not available for graduate credit.

5335 Inclusion Practices In The Early Childhood Classroom (3)
Prerequisites: Level I. 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.

6321 Parent and Community Resources in Early Childhood Education (3)
Prerequisite: Graduate standing. 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.

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 the philosophy upon which 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.

6413 The Educational Role of Play (3)
Prerequisite: Ech Ed 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.

6415 Organization and Development of Early Childhood Programs (3)
Prerequisites: Ech Ed 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.

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.

6497 Problems (1-10)
Prerequisite: Graduate standing. Individual study on topics pertaining to early childhood education.

Educational Foundations (Ed Fnd)

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.

6421 Philosophy of Education (3)
Prerequisites: Graduate standing or consent of instructor. (Same as Philosophy 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.

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.

6435 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)

2245 Audiovisual Equipment Operation for Classroom Teachers (1)
An entry-level course for all teacher education students. May be taken concurrently with Ed Tec 2246. A self-paced, modularized, and criterion referenced course. Students will demonstrate competence in operating standard audiovisual equipment normally found in the schools.

2246 Preparation of Inexpensive Materials for the Classroom (1)
An entry-level course for teacher education students. May be taken concurrently with Ed Tec 2245. A lecture-demonstration laboratory course in material preparation for classroom use.

2247 Integration of Media and Materials in Instructional Planning (1)
Prerequisites: Ed Tec 2246, and for secondary Education students, Sec Ed 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 2246 must be taken prior to, or concurrently with, this course.

2248 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.

5301 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.

5340 Selection and Utilization of Educational Multimedia (3)
Prerequisites: Ed Tec 5301 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.

5345 Preparation of Graphic Materials for Audiovisual Education (3)
Prerequisite: Ed Tec 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.

5346 Instructional Television (3)
Prerequisite: Ed Tec 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.

6404 Seminar (1-10)
Prerequisites: Ed Tec 5340 or consent of instructor. Seminar in educational technology addressing special issues and topics not normally included in the regular educational technology courses.

6410 Computer-Based Graphics and Text Design and Production (3)
Prerequisite: Education 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.

6412 Applications of Computers in Education (3)
Prerequisite: Educ 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.

6415 Teaching and Learning with Technology: Authoring Tools (3)
Prerequisite: Ed Tec 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.

6416 Teaching and Learning with Technology: Data Representational Tools (3)
Prerequisites: Ed Tec 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.

417 Teaching and Learning with Technology: Geographic Information Systems (GIS) (3)
Prerequisites: Ed Tec 5340 Provides a foundational understanding of the Geographical Information System (GIS) and how it is integrated into middle and high school classrooms. Students will learn how to represent data used in schools and carry out projects that can be used in middle and high school classrooms.

6433 Educational Technology Systems Management (3)
Prerequisite: Ed Tec 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.

6435 Instructional Technology and Education Reform (3)
Prerequisite: Ed Tec 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?

6436 Computer-Mediated Communication in Education (3)
Prerequisite: Ed Tec 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.

6437 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.

6444 Cognition and Technology (3)
(Same as Ed Psy 6444) Prerequisites: Ed Psy 6111 or consent of instructor. Examines cognitive theories and computer-based tools for learning. Students will gain a critical understanding of the relationship between the design of technological tools, the use of those tools in educational settings, and their implications for learning.

6446 Advanced Instructional Television Production (3)
Prerequisite: Ed Tec 5340 and Ed Tec 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.

6448 Technology-Supported Inquiry Learning (3)
(Same as Ed Psy 6448) Prerequisites: Ed Tec 5340 and Ed Psych 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.

6449 Using Technology in Administration Processes (3)
Prerequisites: A course in measurement, statistics or evaluation, or consent of instructor. (Same as Ed Adm 6449) The course will explore how the use of data analysis with technology can be applied in the administration of schools or other work settings.

Administrators will explore software tools and their implications for making decisions. A case study will be completed on the implementation of a technology in a school or other appropriate setting.

6452 Educational Multimedia Design (3)
Prerequisite: Ed Tec 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.

6454 Instructional Video Production (3)
Prerequisites: Ed Tec 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 programs for school news programs, video annuals, documentaries and staff development programs.

6460 Technology Coordination in Schools (3)
Prerequisite: Ed Tec 5340 & 6444 & 6448 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.

6462 Technical System Implementation for Educational Technology (6)
Prerequisites: Ed Tec 5340. Provides a foundational understanding of technical systems used in educational institutions, with a special emphasis on networked personal computers. Students learn theory and practice enabling them to set up, troubleshoot and configure networked computers for educational purposes.

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.

6497 Problems (1-10)
Prerequisite: Ed Tec 5340 or consent of instructor. Individual study on topics pertaining to educational technology.

Elementary Education (Ele Ed)

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.

2177 An Introduction to Music for the Elementary School (3)
(Same as Music 3770). 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.

2179 Art Activities for Elementary Schools (3)
(Same as Art 1179). A study of art principles; provides laboratory experiences with various media and materials. Stresses curriculum planning and developments 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

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.

3277 Curriculum and Methods of Teaching Elementary School Music (3)
Prerequisites: Music 2311, 2312 and Level 1 Education courses. Same as Music Education 3570. Prerequisites: Music 2311 and Ed Fnd 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.

3330 Literacy, Literature and the Learner (3)
Prerequisite: Level I and Level II. Exploration of literature and literacy-related resources available to teachers for children and young people. Emphasis on critical reading of literature for a variety of purposes, including communication, instruction, information, and recreation. Focus on the development of criteria for evaluating and selecting culturally and developmentally appropriate materials for motivating students to read in school and at home, as well as strategies for using literature to build family and school partnerships around reading. Twelve hours of participation in a school classroom setting are required. This course may be applied toward a Literacy Minor.

3336 Communication Arts Learning and Instruction (3)
Prerequisites: Level I and Level II. Analysis of the six communication arts including listening, speaking, viewing, visually representing, writing, and reading across content areas. Attention on understanding children's home language and how children learn and

develop communication skills. Special emphasis on strategies for assessing and teaching reading and writing, including workshop models, spelling, grammar, and grand conversations to meet the needs of every child. Twelve hours of involvement in a school classroom setting required. This course may be applied toward a Literacy Minor.

3389 Classroom Based Assessment to Guide Literacy Instruction (3)
Prerequisites: Tch Ed 3315 or Tch Ed 4391 or equivalent reading methods course. Strategies for differentiating instruction for a range of readers and writers across content areas. Focus on cultural and language considerations in the assessment of students' literacy skills. Emphasis on meeting the needs of individual readers and writers in the context of whole class instruction. Twelve hours of participation in a school classroom setting are required. This course may be applied toward a Literacy Minor.

3390 Elementary School Student Teaching III (6)
Prerequisites: Ele Ed 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.

4246 Teaching Mathematics in the Elementary School (3)
Prerequisites: Ed Fnd 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.

4253 Teaching of Social Studies in the Elementary School (3)
Prerequisites: Ed Fnd 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.

4310 Elementary School Curriculum (3)
Prerequisites: Level I and admission to teacher education program. Study of modern education with regard to objectives, content, and methods in elementary school curriculum.

4320 Classroom Management (3)
Prerequisites: Level I and II courses or consent of instruction. (Same as Spc Ed 4320, Ech Ed 4320, Sec Ed 4320.) Understanding classroom management as the development of engaging instruction that establishes healthy teacher-student relationships, builds successful classroom community and enhances student motivation for learning. Participants develop a classroom management plan that includes rules, procedures, expected behaviors and uses problem solving strategies to resolve behavior problems. Emphasis is on establishing social competence of PreK-12th grade students within diverse classrooms and engaging families in supportive interactions.

4341Teaching Science in the Elementary School (3)
Prerequisites: Level I and Level II. An analysis of teaching science to elementary school children with emphasis on current science education trends, science curricular materials, and strategies of instruction.

4342 Addressing Needs in Mathematics Teaching & Learning (3)
Prerequisite: Ele Ed 4246. Instructional strategies for analyzing and addressing needs of students who have difficulties understanding and becoming proficient in mathematics. Conceptual development and procedural fluency are approached in a diagnostic and prescriptive context. Course requires that students participate in K-12 classrooms for a minimum of 10 hours, in addition to university class schedule.

4346 Advanced Methods in Elementary School Mathematics (3)
Prerequisites: Ele Ed 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.

4405 Seminar (1-10)

4989 Elementary Education Professional Internship (3)
Prerequisites: Level 1 & Level 2 requirements. This course is an intensive professional development experience (9 hours per week for 14 weeks) working in an elementary school setting with students. Activities on site include assisting the classroom teacher in all areas of instruction, assessment, and classroom management. Particular emphasis will be given to literacy development. This course is to be taken during the semester immediately preceding student teaching. This course is to be taken in conjunction with Ele Ed 4253, Ele Ed 4246 and Ele Ed 4341. Assignments from these allied courses are carried out in the Internship, and Internship experiences inform the activities and discussions in these courses. Not available for graduate credit.

4990 Elementary School Student Teaching I (6)
Prerequisites: Completion of Level III and admission to teacher education program. Clinical teaching experience

in elementary school classrooms under university and school supervision. Required for all majors in elementary education. Not available for graduate credit.

4991 Elementary School Student Teaching II (6)
Prerequisite: Completion of Level III courses. Clinical teaching experience in elementary school classrooms under university and school supervision. Required for all majors in elementary education. Not available for graduate credit.

6387 Literacy Acquisition and Learning for Urban Students (3)
Prerequisites: Graduate standing. Designed to extend teacher understanding of children's literacy acquisition, development, and learning through the elementary grades. Emphasis on development of a teaching philosophy and skills which include maintaining effective literacy learning environments in urban classrooms, fostering culturally responsive classroom communities, understanding social and environmental issues that affect the literacy learning of urban learners, using effective methods and materials to develop engaged and literate students, and fostering children's participation in literacy activities.

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.

6411 Curricular Issues in Early Childhood and Elementary Programs (3)
Prerequisite: Ele Ed 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.

6412 Microcomputers in Elementary Education (3)
Focuses on principles and procedures for using microcomputers for instructional and classroom management activities in the elementary classroom.

6422 Curriculum Construction in Early Childhood and Elementary Programs (3)
Prerequisite: Ele Ed 6410 and 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.

6423 Curricular Implementation in the Early Childhood and Elementary Programs (3)
Prerequisite: Ele Ed 6422. Implementation of a culminating project designed in Ele Ed 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.

6425 Elementary School Supervision (3)
Organized to study such problems in field of supervision as will meet needs of superintendents, principals, and special supervisors.

6426 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.

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.

6428 Elementary School Curriculum Reform in the Life Sciences (1-4)
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. Credit to be determined by instructor.

6429 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.

6432 Problems and Research in Elementary School Language Arts (3)
Prerequisites: Ele Ed 6430, Ed Rem 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.

6436 Children's Literature I: Survey and Analysis (3)
Prerequisite: Ele Ed 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.

6437 Children's Literature II: Selection and Functions (3)
Prerequisite: Ele Ed 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.

6441 Problems and Research in Teaching Elementary School Science (3)
Prerequisites: Eight hours of science, Ele Ed 4341, and Ed Psy 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.

6442 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 and implementing standards–based inquiry science activities that include connections to other curriculum areas.

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.

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.

6445 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.

6446 Curriculum and Methods of Teaching Measurement in Mathematics: Metric and Standard Systems (3)
Prerequisite: Ech Ed 4346 or Ele Ed 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.

6447 Problems and Research in Teaching Elementary School Mathematics (3)
Prerequisite: Ele Ed 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.

6448 Diagnosis and Remediation of Disabilities in Learning Mathematics (3)
Prerequisite: Ele Ed 6445. Causes of mathematical disabilities. Materials and techniques for diagnoses and corrective programs for children and youth.

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.

6452 Problems and Research in Teaching Elementary School Social Studies (3)
Prerequisite: Ele Ed 6450. 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.

6482 Problems and Research in Teaching Elementary School Reading (3)
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.

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.

6493 Reading Specialist Practicum I (3)
Prerequisites: Ele Ed 6486. Application of reading theory and research in a supervised setting. Emphasis on assessing and analyzing the literacy strengths, needs, and interests of a range of readers with the goal of improving their reading abilities and attitudes. Focus is on establishing reading support for children with the assistance of formal and informal assessments, reading professionals, educators, and children's families.

6494 Reading Specialist Practicum II (3)
Prerequisite: Ele Ed 6493. Application of reading theory and research in a supervised setting. Emphasis on using appropriate materials and providing effective instructional techniques to address children's assessed literacy strengths, needs, and interests with the goal of improving their reading abilities and attitudes. Focus is on sustaining reading, support for children with the assistance of other reading professionals, educators, and children's families.

6495 Supervision of Practicum in Clinical Reading (3)
Prerequisites: Ele Ed 6486, Ele Ed 6494, Ed Rem 6716 or consent of instructor. Supervising graduate students in diagnosis and remedial process within the reading clinic.

6497 Problems (1-10)
Selected problems to meet the needs of individual students.

6630 Communication Arts Instruction (3)
Designed to extend teacher understanding of children's acquisition, development, and learning of the six communication arts. Emphasis on development of a teaching philosophy and skills in which children actively engage in reading, writing, listening, speaking, viewing and visually representing. Focus on developing culturally responsive classroom communities using effective methods and materials to engage children while fostering their participation in authentic communication arts activities.

6684 Instructional Strategies for Teaching Reading (3)
Prerequisite: Graduate standing. Designed to extend teacher knowledge of effective instructional strategies for teaching reading. Emphasis on development of a teaching philosophy which acknowledges children gain considerable knowledge about reading from their families and communities, long before they encounter formal reading instruction. Focus on fostering culturally responsive classrooms using children's prior experiences, their language systems, cross-cultural literature, authentic texts, and other print materials familiar to children's home environments, as well as on teaching effective strategies to promote children's reading success.

6686 Literacy Assessment to Guide Instruction I (3)
Prerequisites: Ed Rem/Tch Ed 6040 and at least one graduate elective in literacy. Designed to develop teacher understanding of the roles and responsibilities of the teacher of reading. Reading Specialist and Literacy Coach. Emphasis on development of a teaching philosophy which represents an understanding of the range of cultural, linguistic, social, emotional, and academic factors that impact children's acquisition of literacy skills, Focus on literacy assessment tools and techniques to guide instruction for a range of children. Teachers will use informal and formal literacy assessment tools to guide instructional planning for children in the UMSL Reading
Center.

6688 Literacy Assessment to Guide Instruction II (3)
Prerequisite: Ed Rem/Tch Ed 6040, at least one graduate elective in literacy, and Ele Ed 6686. Designed to extend teacher knowledge of the roles and responsibilities of the teacher of reading, Reading Specialist and Literacy Coach. Emphasis on the nature of specific reading difficulties, distinguishing reading difficulty/disability from language difference, becoming familiar with a range of tools for assessing reading skills and strategies, and developing a critical orientation for evaluating the purpose and utility of various literacy assessment tools. Teachers will use informal and formal literacy assessment tools to guide instructional planning for children in the UMSL Reading Center.

Middle Education (Mid Ed)

4246 Teaching Mathematics in the Middle School (3)
Prerequisites: Level 1 & Level 2 and completion of mathematics area of concentration. A study of the middle school math curriculum with state standards and appropriate instructional strategies, materials and assessments.

4253 Teaching Social Studies in the Middle School (3) (3)
Prerequisites: Completion of Level 1 and Level 2 courses. Study of middle 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. A minimum of 30 field experience hours are required.

4315 The Middle Level School (3)
Prerequisites: Level 1 and admission to teacher education program. An in-depth study of the philosophical and historical basis of middle level schools, including a review of the research as the basis for organization, current trends and practices.

4316 Middle Level Curriculum and Instruction (3)
Prerequisites: Completion of Level 1. Preparation for teaching and learning in a middle school, grades 5-9. Content focuses on curriculum development, methods, techniques, materials, planning, organization, and

assessment in middle level education for early adolescents.

4317 The Middle-Level Child (3)
Prerequisites: Completion of Level 2. 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.

4989 Middle Level Education Professional Internship (3)
Prerequisites: Level 1 & Level 2 requirements, Mid Ed 4315, Mid Ed 4316. This course is an intensive professional development experience (9 hours per week for 14 weeks) working with students in a middle school setting. Activities on-site include assisting the classroom teacher in all areas of instruction, developing instructional materials, assessment, and classroom management. This course is to be taken prior to student teaching, ideally during the semester immediately preceding student teaching. This course should be taken concurrently with Mid Ed 4317. Not available for graduate credit.

5220 Science for the Middle School Teacher (5)
Prerequisites: 10 hours of science at the college level. This course is intended to provide science content and pedagogical methods for middle school teachers. Science content includes investigations of the properties of solids and solutions, chemical changes, and conservation of matter, forces and simple machines, food webs, the environment and ecosystems, heat and radiation, waves and diffraction, and static electricity and currents.

Physical Education (Phy Ed)

Prerequisites may be waived by consent of the department or the instructor.

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.

1190 Clinical Experience in Physical Gerontology (3)
Same as Gerontology 1190. Early supervised experience in gerontological physical activity programming. Seminar precedes and accompanies clinical experience.

1193 Clinical Experience in Youth Support Programs (3)
Supervised clinical experience in youth sport programs. Seminar precedes and accompanies clinical experience.

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.

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.

3204 Special Topics in Physical Education (1-3)
Prerequisite: Consent of instructor. Independent study through readings, reports, field study, or research.

3261 Physical Activity for the Exceptional Learner (2)
Prerequisites: Spc Ed 3311 and Spc Ed 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.

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.

3275 Psychological Aspects of Physical Education (3)
Prerequisites: Psychology 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.

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.

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.

3280 Human Anatomy and Physiology (5)
Prerequisite: Bio 1012 and Bio 1003 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.

3282 Physical Growth and Motor Development (3)
Prerequisite: Psychology 2270. 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.

3283 Kinesiology (3)
Prerequisite: Phy Ed 3280. Study of the biomechanics of human motion with particular application to performance in sport activities.

3284 Physiology of Human Exercise (3)
Prerequisite: Phy Ed 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.

3285 Sports Medicine (3)
Prerequisite: Phy Ed 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.

3287 Seminar in Exercise Science (3)
Prerequisites: Phy Ed 3283, 3284, or 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.

3422 Teaching of Skills: Grades PK-4 (4)
Prerequisite: Completion of 27 designated credit hours of Level II courses. 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.

3423 Teaching of Skills: Grades 5-9 (4)
Prerequisite: Completion of 27 designated credit hours of Level II courses. 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.

3424 Teaching of Skills: Grades 9-12 (4)
Prerequisite: Completion of 27 designated credit hour of Level II courses. 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.

3425 Teaching of Skills: Movement, Dance and Rhythms (3)
Prerequisites: Completion of 27 credit hours of Level II courses. Study of movement analysis and techniques of teaching fundamental movement skills, rhythmic activities, creative movement, and dance, including folk, square, ballroom, modern, and jazz, in school settings. Emphasis will be given to biomechanical analysis of movement, developmental sequences of fundamental movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

3430 Teaching Health in the Elementary School (3)
Prerequisites: Level I courses and admission to teacher 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.

3434 Teaching Wellness and Health-Related Fitness (4)
Prerequisite: Phy Ed 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.

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.

3468 Curriculum and Methods of Teaching Physical Education (3)
Prerequisite: Phy Ed 101 or Sec Ed 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.

4989 Physical Education Professional Internship (3)
Prerequisites: Level II designated course requirement. This course is an intensive professional development experience (9 hours per week for 14 weeks) working in a school setting with students. Activities on site include assisting the classroom teacher in all areas of instruction, assessment, and classroom management. This course is to be taken prior to student teaching, ideally during the semester immediately preceding student teaching. Assignments from allied courses (Phy Ed 3422, 3423, 3424) are carried out in the Internship, and Internship experiences inform the activities and discussions in these courses. Not available for graduate credit.

4990 Student Teaching in Physical Education: PK-5 (6)
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. Not available for graduate credit.

4991 Student Teaching in Physical Education: 5-9 (6)
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 only K-9 certification in physical education. Not available for graduate credit.

4992 Student Teaching in Physical Education: 9-12 (6)
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 K-12 certification in physical education. Not available for graduate credit.

5240 Community Health Education (3)
Prerequisites: Tch Ed 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.

5248 Teaching Health in the Secondary School: Grades 9-12 (3)
Prerequisites: Tch Ed 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.

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.

5330 Prescribing Physical Activity (3)
(Same as Gerontology 5330). Prerequisite: Phy Ed 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.

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.

5931 Adult Exercise Leadership (3)
Prerequisites: Phy Ed 3284 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.

5990 Student Teaching in Physical Education III (5)
Prerequisites: Phy Ed 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.

5992 Internship in Physical Gerontology (1-10)
Prerequisites: Phy Ed 1190 or consent of instructor. Same as Gerontology 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.

6404 Seminar in Physical Education (1-10)
Prerequisites: Graduate Standing. Seminar in health and physical education addressing special topics not normally included in the regular health and physical education courses. May be repeated up to ten hours.

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.

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.

6474 Psychological Dynamics of Sport Performance (3)
Prerequisite: Phy Ed 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.

6475 Motor Learning and Control (3)
Prerequisite: Phy Ed 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.

6476 Social Inquiry of Sport (3)
Prerequisite: Phy Ed 3276 or consent of instructor. A study of basic social processes in sport, such as socialization, social facilitation, and assimilation.

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.

6482 Life Span Perceptual and Motor Development (3)
Prerequisite: Phy Ed 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.

6483 Biomechanics of Sport Techniques (3)
Prerequisite: Phy Ed 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.

6484 Physiological Bases of Physical Performance (3)
Prerequisites: Phy Ed 3280 and Phy Ed 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.

6485 Theory of Exercise and Cardiovascular Disease Risk Factor Management (3)
Prerequisite: Completion of Phy Ed 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.

6497 Problems (1-10)
Prerequisite: Consent of instructor. Selected problems to meet the needs of individual students.

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.

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 I the areas of physical education and curriculum and instruction.

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.

Secondary Education (Sec Ed)

3209 American Government for the Secondary Classroom (3)
Prerequisites: Tch Ed 3310 and Pol Sci 1100, graduate standing or consent of instructor. Same as Pol Sci 3090. 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 3257 or 3258 or Political Science/Sec. Ed. 3209 must be taken the same semester as History/Sec Ed 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.

3240 Curriculum and Methods of Teaching Physical Sciences (3)
Same as Chemistry 4802 and Physics 4802. Prerequisite: Tch Ed 3310 and a near major in the subject matter. 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.

3274 Curriculum and Methods of Teaching Foreign Language (3)
Same as FLL 3264. Prerequisites: Tch Ed 3310 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.

3275 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)
Prerequisites: Music 2311, 2312, Music 3570/Ele Ed 3277,and Level I Education courses. Concurrent registration in Music 3680/Sec Ed 3276 and Music 3700/Sec Ed 3278 or Music 3710/Sec Ed 3279. (Same as Music 3670). 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.

3276 Curriculum and Methods of Teaching Instrumental Music I (2)
Prerequisites: Music 2311, 2312, 3410, 2510, 2610, Level I Education courses and two of the following: Music 1250, 1260, 1270, 1280. Concurrent registration in Music 3570/Ele Ed 3277. Same as Music 3680 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.

3277 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)
Prerequisites: Music 2311and 2312. Music 3570/Ele Ed 3277, and Level I Education courses. Concurrent registration in Music 3670/Sec Ed 3275 and Music 3710/Sec Ed 3279. (Same as Music 3690). 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.

3278 The Curriculum and Methods of Teaching Instrumental Music II (2)
Prerequisites: Music 2311, 2312, 3521, 3620, Music 3570/Ele Ed 3277, Music 3680/Sec Ed 3276,Level I Education courses and three of the following: Music 1250, Music 1260, Music 1270, Music 1280. Concurrent registration in Music 3670/Sec Ed 3275. Same as Music Ed 3700. A continuation of Music 3680/Sec Ed 3276. Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation. This course must be completed in residence.

3279 Curriculum and Methods of Teaching Secondary Choral Music (2)
Prerequisites: Music 2311, 2312, Music 3570/Ele Ed 3277, and Level I Education courses. Concurrent registration in Music 3670/Sec Ed 3275 and Music 3690/Sec Ed 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 residence.

3328 Art Education: Theory to Practice (3)
Prerequisites: Tch Ed 2210, 2211, 2212 and completion of Foundation Art Program. Development and application of concepts related to comprehensive art education and standards-based curriculum in art education, with an examination of current theories, trends, publication, and on-line resources in the field.

4011 The Curriculum and Methods of Teaching History and Social Studies (3)
Prerequisites: Junior standing and Tch Ed 3310 (Same as History 4011) 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. This course must be taken in conjunction with Sec Ed 3289, Secondary Education Professional Internship. May not count toward history hours required for history major. Must be completed prior to student

teaching. This course must be completed in residence. Not available for graduate credit.

4012 Social Studies Teaching Intern Seminar (1)
Prerequisites: Concurrent enrollment with student teaching. (Same as History 4012) Addresses the application of teaching strategies, social studies curriculum, and classroom management. Offered concurrently with Secondary School Student Teaching, Sec Ed 4990. Not available for graduate credit.

4013 United States History for the Secondary Classroom (3)
Prerequisites: Tch Ed 3310 or consent of the instructor. (Same as History 4013). This course is required for Social Studies Certification. 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 39-hour history major requirement, but can be counted towards the 45-hour maximum for Social Studies Certification. Not available for graduate credit.

4014 World History for the Secondary Classroom (3)
Prerequisite: Tch Ed 3310 or consent of instructor. Same as History 4014. This course is required for Social Studies Certification. 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 39-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification. Not available for graduate credit.

4273 Curriculum and Methods of Teaching Art (3)
Prerequisites: Sec Ed 3328 and completion of, or concurrent enrollment in Tch Ed 3310, 3312, 3313, 3386. A study of the scope and sequence of art education in the school curriculum, with emphasis on the preparation, selection, organization and application of materials and methods of instruction and assessment. Attention is also given to learning the research tools of the scholar in the field of art education. Not available for graduate credit.

4320 Classroom Management (3)
Prerequisites: Level I and II courses or consent of instructor. (Same as Spc Ed 4320, Ech Ed 4320, Ele Ed 4320.) Understanding classroom management as the development of engaging instruction that establishes healthy teacher-student relationships, builds successful classroom community and enhances student motivation for learning. Participants develop a classroom management plan that includes rules, procedures, expected behaviors and uses problem solving strategies to resolve behavior problems. Emphasis is on establishing social competence of PreK-12th grade students within diverse classrooms and engaging families in supportive interactions.

4374 Foreign Language Teaching Seminar (2)
(Same as FLL 4364). Prerequisite: Concurrent enrollment in Sec Ed 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 3274, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with Sec Ed 3290, Student Teaching.

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.

4399 Student Teaching in Music Education, K-12 (5)
Prerequisite: Sec Ed 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.

4646 The Curriculum and Methods of Teaching Mathematics (3)
Prerequisites: Tch Ed 3310 and a near major in the subject matter. A study of the scope and 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. Not available for graduate credit.

4648 Mathematics Teaching Seminar (1)
Prerequisites: Concurrent enrollment in Sec Ed 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 4990. Not available for graduate credit.

4880 Writing for Teachers (3)
(Same as English 4880). Prerequisite: English 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.

4885 The Curriculum and Methods of Teaching English (3)
Prerequisites: Tch Ed 3310 and a near major in the subject area. (Same as English 4885). 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. 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 Secondary Education Professional Internship, Sec. Ed 4989. This course must be completed in residence. Not available for graduate credit.

4888 English Teaching Seminar (2)
Prerequisites: English 4885/Sec.Ed. 4885, Curriculum & methods of Teaching English. (Same as English 4888) 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 4990. Not available for graduate credit.

4889 The Curriculum and Methods of Teaching English (3)
(Same as English 4889) Prerequisites: Tch Ed 3310 and a near major in the subject area. 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. 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 Secondary Education Professional Internship, Sec. Ed 4989. This course must be completed in residence. Not available for graduate credit.

4890 English Teaching Seminar (2)
(Same as English 4890) Prerequisites: Tch Ed 3310 and a near major in the subject area. 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 4990. Not available for graduate credit.

4985 Curriculum and Methods of Teaching Life Sciences (4)
(Same as Biology 4985). Prerequisites: Tch Ed 3310 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.

4986 Laboratory in Teaching Life Sciences (2)
(Same as Biology 4986). Prerequisite: Tch Ed 3310. Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 4985/Sec Ed 4985.

4989 Secondary Education Professional Internship (3)
Prerequisites: Level I and Level II requirements. This course is an intensive professional development experience (9 hours per week for 14 weeks) working in a secondary school setting. Activities on site include assisting the classroom teaching in all areas of instruction, assessment, and classroom management. This course is to be taken during the semester immediately preceding student teaching. This course must be taken in conjunction with methods of instruction course in specific content area. Assignments from these allied courses are carried out in the Internship, and Internship experiences inform the activities and discussions in these courses. Not available for graduate credit.

4990 Secondary School Student Teaching (12)
Prerequisites: Completion of Level II courses, the appropriate curriculum and methods course in the teaching field, and admission to student teaching. Clinical teaching experience in secondary school classrooms under university and school supervision. Not available for graduate credit.

4993 Student Teaching in Music, K-6 (6)
Prerequisites: Level I and Level II Education Courses. *Music 3570/Ele Ed 3570, *Music 3670/Sec Ed 3670, Music 2180. *Music 3680/Sec Ed 3680 *Music 3700(Sec Ed 3700) (Instrumental emphasis majors); Music 3290, *Music 3690/Sec Ed 3690, *Music 3710/Sec Ed 3710 (Choral/Vocal emphasis majors); and admission to student teaching. Must be taken "in block" with Sec Ed 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. *Courses must be taken in residence. Not available for graduate credit

4994 Student Teaching in Music Education, 7-12 (6)
Prerequisite: Sec Ed 4993. Must be taken "in block" with Sec Ed 4993 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 4993. Required of all majors in music education. *Courses must be taken in residence. Not available for graduate credit.

4996 Student Teaching in Elementary Art (6)
Prerequisites: Sec Ed 4273, 45 hours Studio Art, 15 hours Art History and admission to student teaching. Intensive clinical teaching experience under university and school supervision, with seminar included. Must be taken in block with Sec Ed 4997. Not available for graduate credit.

4997 Student Teaching in Secondary Art (6)
Prerequisites: Sec Ed 4273, 45 hours Studio Art, 15 hours Art History, and admission to student teaching. Clinical teaching experience under university and school supervision in middle/junior high and/or high school, with seminar included. Must be taken in block with Sec Ed 4996. Not available for graduate credit.

4999 Biology Science Teaching Intern Seminar (3)
(Same as Biology 4999). Prerequisites: Sec Ed 4985 and Sec. Ed 4986.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 4990. Not available for graduate credit.

6404 Seminar (1-10)

6413 Secondary Teaching with Microcomputers (3)
Prerequisite: Educ 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.

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.

6415 The Secondary School Curriculum (3)
For secondary school principals, teachers, and superintendents. Present methods in curricular change and methods of curricular investigation.

6416 Curriculum Construction for Secondary Schools (3)
Prerequisite: Sec Ed 6415 or consent of instructor. Designed for those engaged in curriculum revision work and construction of new secondary school courses.

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.

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.

6426 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.

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.

6428 Secondary School Curriculum Reform in the Life Sciences (1-4)
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. Credit to be determined by instructor.

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.

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.

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.

6484 Secondary School Curriculum Reform in the Health Sciences (4)
Prerequisites: Graduate standing. Field-based experiences in improving the district-le 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.

6485 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.

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.

6497 Problems (1-10)

6986 Techniques in Teaching Biology for Graduate Students (2)
(Same as Biology 5986). 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

Special Education (Spc Ed)

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.

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.

3290 Student Teaching in Special Education I (6)
Prerequisites: Tch Ed 2210, 2211, 2212, 3310, 3312, 3313, 3315, Spc Ed 4320, 3332 and admission to student teaching. Must be taken with Spc Ed 3291 and must immediately precede Spc Ed 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.

3291 Student Teaching in Special Education II (6)
Prerequisite: Completion of Level III courses. Clinical teaching experiences in elementary school classrooms under university and school supervision. Assignments will be in different grade levels from those of the Spc Ed 3290 assignments. Required for all majors in special education.

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.

3313 Introduction to Learners with Disabilities and Inclusive Education (3)
Prerequisite: Level I or equivalent. (Same as Tch Ed 3313) Provides an overview of inclusive education and special education with an emphasis on relevant educational legislation, important historical developments, and necessary adaptations of instruction 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.

3330 Introductions to Mental Retardation and Severe Handicaps (3)
Prerequisite: Spc Ed 3313. An introductory course describing characteristics, classification, and causes of mental retardation and severe handicapped.

3332 Educating Learners with Developmental Disabilities, Physical or other Health Impairments (3)
Prerequisites: Tch Ed 2211, Spc Ed 3313, and Spc Ed 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

3345 Educational Programs for Students with Disabilities (3)
Prerequisites: Tch Ed 3313 or equivalent or consent of instructor. This course examines current research, theory, and practices of educational programs provided for students with disabilities. Particular emphasis is given to the effective inclusive education of students with mild/moderate learning disabilities, emotional/behavioral disorders, and developmental disabilities. Topics addressed include assessment for and of learning, assessment for eligibility for special education services, legal requirements for special education programs, various definitions and theories of mild/moderate disability types, collaboration with families and other professionals, and issues of race, ethnicity, class, and gender.

3347 Teaching Learners with Learning Disabilities (3)
Prerequisites: Spc Ed 3313 and Spc Ed 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.

3349 Learning and Social Supports for Students with Disabilities (6)
Prerequisites: All Level 2 courses and Spc Ed 3345. This course focuses on the development of professional practices for the provision of instructional, social, emotional, medical and behavioral supports for students with disabilities in general education classroom and buildings. Course content includes assessment, planning, action, and collaboration. Students seeking special education teacher certification must take this during the same semester as Spc Ed 4989, Special Education Professional Internship.

3350 Teaching Learners with Emotional/Behavioral Disorders (3)
Prerequisites: Spc Ed 3313 and Spc Ed 3345. A course designed to instruct students in the management and instructional strategies necessary to the education of learners with emotional/behavioral disorders.

4301 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.

4302 Special Education Process and Performance Assessment (2)
Prerequisite: Spc Ed 4301 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.

4315 Speech and Language Problems of Exceptional Children (3)
Prerequisites: Ed Fnd 1111, Spc Ed 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.

4320 Classroom Management (3)
Prerequisites: Levels I and II courses or consent of instructor. (Same as Ech Ed 4320, Ele Ed 4320, Sec Ed 4320.) Understanding classroom management as the development of engaging instruction that establishes healthy teacher-student relationships, builds successful classroom community and enhances student motivation for learning. Participants develop a classroom management plan that includes rules, procedures, expected behaviors and uses problem solving strategies to resolve behavior problems. Emphasis is on establishing social competence of PreK-12th grade students within diverse classrooms and engaging families in supportive interactions.

4322 Inclusive Education: Theory and Practice (3)
Prerequisite: Spc Ed/Tch Ed 3313 or Spc Ed 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.

4342 Transition Issues and Planning (3)
Prerequisite: Tch Ed 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. Transition outcomes include employment, residential options, and other developmental concerns. Topics include self-determination, career education and planning, interagency collaboration, vocational and residential issues and resources, and family support and involvement.

4370 Sensory-Motor Development of the Severely Handicapped (3)
Prerequisite: Spc Ed 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.

4371 Methods and Curricula for Severely Handicapped (3)
Prerequisite: Spc Ed 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.

4382 An Introduction to Gifted Children (3)
Prerequisite: Spc Ed 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.

4384 The Education of Gifted Children (3)
Prerequisite: Spc Ed 3313. This course deals with methods, techniques, and curricular modifications necessary for the effective education of gifted children.

4390 Student Teaching in Special Education III (6)
Prerequisites: Spc Ed 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.

4989 Special Education Professional Internship (3)
Prerequisites: Level I & Level II requirements and Ele Ed 4989. This course is an intensive professional development experience (9 hours per week for 14 weeks) working in a school setting with students with disabilities. Activities on site include assisting the classroom teacher in all areas of instruction, assessment, and classroom management. This course is to be taken in conjunction with Spc Ed 3349. Assignments from this course are carried out in the Internship, and Internship experiences inform the activities and discussions in this course. Not available for graduate credit.

5303 Instructional Practices (3)
Prerequisite: Spc Ed 4301 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.

5304 Structure of Teaching and Communication (2)
Prerequisite: Spc Ed 5303 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.

5305 Planning and Managing the Teaching and Learning Environment (3)
Prerequisite: Spc Ed 5303 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.

5306 Research Into Practice (4)
Prerequisite: Spc Ed 5305 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.

5307 The Reflective Practitioner (4)
Prerequisite: Spc Ed 5306 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.

6320 Advanced Studies in Classroom Management (3)
An advanced course designed for practicing educators examining current research, theory, and practice of classroom and behavior management. Emphasis will be given to the analysis of research and development of practical skills in the areas of conflict resolution, social problem-solving, classroom and school community building, and the promotion of social competence among children and youth.

6372 Screening and Diagnosis of the Developmental Delays: Birth to 5 Years (3)
Prerequisites: Ed Rem 3721. This course addresses the content, techniques, and special problems related to the assessment of children at risk for developmental delays in

the birth to five year age range. Students gain experience in construction, administration, and interpretation of assessment tools used with young children. Required for certification in severe handicapped and early childhood-special education.

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.

6410 Families and Schools in Inclusive Communities (3)
Prerequisite: Graduate standing. This course focuses on how parents and other family members, teachers, administrators (and other education professionals) can collaboratively increase the capacity of families and schools to support inclusive education and community participation for all students, especially those with significant disabilities. This course draws upon the multiple perspectives of families, schools and the general culture to explore a shared context of family and disability history, educational issues, and personal perspectives.

6411 Law, Policy and Bureaucracy in Education and Disability Studies (3)
Prerequisite: Graduate Standing. This course focuses on the evolution and current status of law and educational policy affecting individuals with disabilities and their families. The course will provide a basic review of governmental structure and educational policy analysis in the United States, and explore statues, policies, and judicial decisions in areas of special education, adult services, family supports, and civil rights.

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.

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.

6421 Prescriptive Teaching of Learners with Disabilities (3)
Prerequisite: Spc Ed 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.

6430 Introduction to Developmental Disabilities (3)
Prerequisite: Spc Ed 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.

6431 Education of Learners with Developmental Disabilities (3)
Prerequisite: Spc Ed 6430. A systematic study of current educational practices and procedures for the education of learners with developmental disabilities. Methods and materials are stressed.

6440 Disability, Schooling and Culture (3)
Prerequisites: Tch Ed 3313 or equivalent. An advanced course that will examine foundational issues in social and educational policy for students with disabilities. The course explores the historical, philosophical, sociological and economic dimensions of the recent emphasis on inclusive and community-based support systems for individuals with disabilities and their families. The course will review recent research and experience in the U.S. (primarily) concerning the evolving roles and relationships of families, teachers, administrators, and students with and without disabilities in increasingly diverse schools and communities.

6441 Curriculum & Teaching for Diverse Learners and Students with Disabilities (3)
Prerequisites: Spc Ed 6440 Curriculum and methods for working within a general education environment with students with disabilities and other students who require extra support and assistance. The course examines approaches to assessment and curriculum design that can accommodate all students, including activity-and interest-based assessments, various strategies for developing integrated curriculum units, and developments of various learning outcomes that can be individually tailored or "personalized" for any student.

6443 Introduction to Learning Disabilities (3)
Prerequisite: Spc Ed 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.

6444 Education of Learners with Learning Disabilities (3)
Prerequisite: Spc Ed 6443. Systematic study of current educational practices and procedures for the education of learners with learning disabilities. Methods and materials are stressed.

6450 Introduction to Emotional/Behavioral Disorders (3)
Prerequisite: Spc Ed 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.

6452 Social, Emotional, and Environmental Supports for Learners with Disabilities (3)
Prerequisite: Spc Ed 6450 or consent of instructor. This course provides advanced students with the research, theory, and practices of providing support to students with disabilities and other students experiencing emotional and behavioral problems. This course focuses on the development of professional skills necessary to assist and teach students with difficult behaviors. Additionally, this course helps classroom teachers learn how to work collaboratively with parents and other professionals in order to construct classroom environments that are supportive and productive for all students.

6462 Introduction to Early Childhood Special Education (3)
Prerequisite: Spc Ed 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.

6463 Curriculum, Methods, and Materials for Early Childhood Special Education (3)
Prerequisites: Spc Ed 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.

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.

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.

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.

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.

6493 Practicum with Students with Visual Impairment (6)
Prerequisites: Spc Ed 366, 6405, 6481, 482, 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.

6497 Problems (1-10)
Prerequisite: Spc Ed 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.

6510 History of Disability and Special Education (3)
Prerequisites: Permission of Instructor.
Provides a historical context for approaching contemporary issues in the education and support of people with disabilities and their families. Requires students to become familiar with methods of retrieval and analysis of historical material.

Teacher Education (Tch Ed)

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. A minimum of 15 field experience hours required.

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. A minimum of 4 field experience hours required.

2212 Introduction to Learners and Learning (3)
Prerequisites: Psych 1003. Same as Ed Psy 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. A minimum of 10 field experience hours required.

3310 Introduction to Instructional Methods (3)
Prerequisites: Tch Ed 2210, 2211, 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. A minimum of 12 field experience hours required.

3312 The Psychology of Teaching and Learning (3)
Prerequisites: Tch Ed 2210, Tch Ed 2211, Tch Ed 2212 or equivalents and admission to Teacher Education program. Same as Ed Psy 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.

3313 Introduction to Learners with Disabilities and Inclusive Education (3)
Prerequisites: Level I or equivalent. (Same as Spc Ed 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.

3315 Literacy Learning and Instruction (3)
Prerequisites: Admission to the Teacher Education program. May take concurrently with Tch Ed 3312 and Tch Ed 3313 or equivalents; may not be taken before Tch Ed 3312 and Tch Ed 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. This course may be applied toward a Literacy Minor.

4320 Educational Issues in the Cultural Construction of Diversity (3)
Prequisites: none In this course students will explore issues of human diversity and how these issues impact a wide range of educational settings. Students will be involved in a continued process of self-assessment regarding how each of us deals with others not like ourselves. Human similarity and diversity will initially be examined using anthropological and biological research. Socio-cultural constructions of this diversity will then be investigated. Diversity will be explored on the individual, local, national and global levels. Students will become familiar with the science of diversity and will investigate how this diversity plays out in a variety of socio-cultural contexts. This class will provide students with a knowledge base about human diversity and will promote multicultural competencies for educators.

4361 Foundations of Service Learning (6)
Prerequisites: Admission to the BES program and completion of Level I and Level II courses. This is a foundations course in the history and fundamentals of service learning. The area of service learning will be examined from its origins including the philosophical concept of the servant as leader and the role of public service and civic engagement in a democracy. Students will work with partner schools and other organizations as a part of the fieldwork requirement for the course.

4391 Teaching Reading in Secondary School Content Areas (3)
Prerequisite: Tch Ed 3310 and 3312, or consent of instructor or equivalent. Methods and materials for improving reading and study strategies in content area classes in upper grades.

5310 Instructional Design (3)
Prerequisites: Graduate standing, Tch Ed 5311, participation in an initial teacher preparation program, and consent of instructor. Skill development in planning teaching units, instructing lessons, selecting content, using various teaching methods, designing assessment, developing classroom climate and in management strategies. Professional skills are developed through reflecting on one's own practice, using educational technology, and developing a professional portfolio.

5311 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.

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.

5850 Topics in the Teaching of Writing (3-6)
(Same as English 4850). Prerequisite: English 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. Counts toward Certificate in writing.

6010 Examining History, Community and Social Justice in Education (3)
Addresses the issues of equity and social justice from the context of personal and educational history. Students will develop a cultural understanding of their own previous school, community and family experiences and generalize those findings to their current work as educators. They will develop an understanding of the historical foundations of American education and the role of the teacher to be a catalyst for change. Curriculum, instruction and learning will be examined through a variety of lenses including race, class, gender, ability, sexual orientation and religion to become culturally responsive teachers.

6020 Teacher Action, Advocacy and Leadership (3)
Investigates the relationships among students, general and special education teachers, counselors, principals, parents, and other support and specialist personnel typically present in schools in Missouri and the changing roles of all these individuals as a consequence of general and special education reform initiatives. Develop systemic action plans and become advocates and leaders within the school and larger community for children, families, and the profession. Assists teachers to analyze and improve their management, planning and record keeping systems and professional development planning.

6030 Instruction, Learning and Assessment (3)
Prerequisites: Admission into Graduate School
(Same as Ed Psy 6030) Uses learning as the basis for the design of classroom instruction. By applying learning theories, teachers can improve their own unit development, lessons plans, assessment strategies, and the use of technology for effective teaching. Deals with the impact of cognitive educational research on the subject content and what is known about how people learn. Teachers will learn to critically evaluate and improve their own educational practices, design principled and appropriate assessments based on their instructional goals, and to assess their own professional development.

6040 Teacher Research (3)
Prerequisites: Tch Ed 6010 and Tch Ed 6020 (Same as Ed Rem 6040) This course provides the knowledge, skills, and practice for experienced practitioners to engage reflectively in a process of systematic study of their own practice within educational systems and situated contexts. Educators will learn both analytic and practical tools to document multiple factors that can impact student learning and become more sophisticated consumers of research in order to engage in student advocacy and influence policy decision-making.

6440 Experiential Education (3)
Prerequisites: Tch Ed 6010
This course addresses facets of experiential learning beginning with the theoretical background. Reflection will be examined as a key component of the experiential learning cycle and reflective questioning techniques developed and practiced. Adventure education, cultural journalism, apprenticeship education and related areas will be investigated as approaches to experiential learning, Students will develop an understanding of the relationship between experience and learning and develop techniques for using that relationship to enhance learning in their own teaching situation.

6880 Gateway Writing Project (3-6)
(Same as English 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' 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 Graduate Certificate in Teaching Writing.

6890 Seminar in Professional Writing for Teachers (3)
Prerequisite: Tch. Ed. 6880, Eng. 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.

6910 Teacher Research Capstone (3)
Prerequisites: Completion of Tch Ed/Ed Rem 6040 and all but the last 6 hours of M.Ed. program. (Same as Ed Rem 6910) This course applies the research knowledge, skills, and practice of experienced practitioners to a final research project that results from reflectively evaluating their own practice within educational systems and situated contexts. Educators will use both analytic and practice tools to research multiple factors that impact their own students learning. The final project will be presented to the faculty and students in the College of Education and displayed in a public forum as a capstone project for the M.Ed..

The College of Fine Arts and Communication

General Information
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 Danceand Media Studies. 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 opening 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.

The College of Fine Arts and Communication consists of some 50 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 Dance and Media Studies Department began to offer classes in the theatre and dance during the 2002-2003 academic year.

Graduate study 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:
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.

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.

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 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 2000 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 2000 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 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:

Students entering with no high school language units must enroll in Language 1 or may enroll in the 2115 series. 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.
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 to the Department of foreign languages and literature. 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.
Language 2115 a, b, and c (Intensive) will satisfy the foreign language requirement. 2115 and co-requisites and must be completed with a grade of C-or better, to satisfy the foreign language requirement.
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.
Students not majoring in music may count no more than eight hours in music-performing organizations (Music 1400, 1410, 1500, 1520, etc.) Students in the college majoring in music may count any number of hours of applied music (private lessons). Students not majoring in studio art may count any studio art course toward any degree in the college. This also includes transferred credit.

Bachelor of Music (B.M.)
The requirements are the same as for the B.A. degree with the addition of music 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 Programs
A certificate program is offered in photographic studies.

Evening Program
All the departments of the College of Fine Arts and Communication offer coursework in the evening or in other non-traditional modes (i.e. on-line and/or video). The Department of Communication offers sufficient coursework to complete its degree program in the evening.

Consult the website of the department in which you are interested for details on degree requirements and 3-year schedule of planned course offerings.

Department Honors
Majors in the following department may pursue departmental 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*.

Department of Art and Art History

Faculty

Dan Younger, Professor, Chairperson*
M.F.A., University of Iowa
Kenneth Anderson, Professor*
M.F.A., Southern Illinois University, Edwardsville
Yael Even, Professor*
Ph.D., Columbia University
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
Jeanne Morgan Zarucchi, Professor*, Art History Coordinator
Ph.D., Harvard University
Marian Amies, Associate Professor*
M.F. A., Southern Illinois University, Edwardsville
Ruth L. Bohan, Associate Professor*
Ph.D., University of Maryland
Susan E. Cahan, Associate Professor, Des Lee Endowed Professorship in Contemporary Art
Ph.D., Graduate Center, City University of New York
Glen P. Gentele, Associate Professor, Aronson Endowed Professor of Modern and Contemporary Art History, Director of Laumeier Sculpture Park
M.F.A., Maryland Institute, College of Art
Phillip E. Robinson, Associate Professor*
M.F.A. University of Illinois, Chicago
Jeffrey L. Sippel, Associate Professor*, BFA Coordinator
M.F.A., Arizona State University
Terry L. Suhre, Associate Professor, Gallery Director*
M.F.A., Southern Illinois University, Carbondale
Jennifer McKnight, Assistant Professor
M.F.A., California Institute of the Arts
Gretchen Schisla, Assistant Professor
M.F.A., Boston University
Susan Waller, Assistant Professor
Ph.D. Northwestern University
Lucí Mauricio-McMichael, Lecturer
M.F.A., Fontbonne 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 have 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. 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 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 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 110,000 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 Building 7, 44 East Drive, 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 room 109 Millennium Student Center. Its exhibitions are devoted primarily to the display of student and faculty work.

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 minimum of 120 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 **four core courses** are required:

1100, Introduction to Western Art
One course from the following list (may be taken concurrently with 1100):
1104, Indigenous Arts of North America
1105, The Arts of Africa
1108, Introduction to the Arts of Asia
3395, Sophomore/Junior Seminar: The Methods of Art History
4495, Senior Seminar

Students must take a minimum of **three lower-division courses,** one from each of the following categories:

Ancient and Medieval
2211, Art and Archaeology of the Ancient World
2212, Greek Art and Archaeology
2213, Roman Art and Archaeology
2214, Early Christian and Byzantine Art
2225, Medieval Art

Early Modern
2235, Italian and Northern European Renaissance Art
2237, Northern European Renaissance Art
2238, Italian Renaissance Art
2240, French Art and Architecture 1500-1715
2245, Baroque Art and Architecture

Modern and American
2250, Nineteenth Century European Art
2255, Modern Art
2265, History of Photography
2270, American Art to 1876
2272, American Art since 1876
2279, American Architecture
2281, Art Since 1960

Students must take a minimum of **three upper division courses.** At least two courses must be at the 3000-level and one course must be at the 4000-level.

Media in Art History
3303, Media and Technique in Art History
3350, History of Modern Design
3360, Photography and Society
3375, The Art of the Print
3385, Studies in Architectural History

Themes in Art History
3365, The Artist and the City
3374, Philosophy of Art
3376, Women and the Visual Arts
3396, The Nude in Art
3397, Landscape Perspectives in Art
3398, The Portrait

Topics in Art History
Courses listed as "Topics" at the 4000 level, including but not limited to:
4435, Topics in Renaissance Art
4445, Topics in Baroque Art
4455, Topics in Modern European Art
4475, Topics in American Art
4481, Topics in Contemporary Art
4490, Special Study

Professional Studies
3387, Professional Internship
3388, UM-St. Louis-Saint Louis Art Museum Internship
3389, Visual Resources Management
4393, Art Museum and Gallery Management
4492, Museum Studies

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 1134, Art Activities for Elementary Schools, does not fulfill this requirement.
Additional hours in art history, up to the maximum of 45, may be completed with electives at the 2000 level or above.

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 1134, Art Activities for Elementary Schools, cannot be applied toward this degree. A minimum of 24 hours in Studio Art 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.

Foundation Art Program
The following courses are required for the Foundation Art Program:

1140, Drawing I
1141, Drawing II
1142, Figure Drawing I
1150, Design I
1151, Design II
2240, Drawing III **or** 1143 Figure Drawing 11*
1030, Ceramics 1, or 1132 Sculpture 1 or 2251 Design 111

9 hours of Studio Art Electives
*Those planning an emphasis in drawing or painting must take Art 1142.

Students must complete 45 hours in one of the following emphasis areas:

Drawing
2240, Drawing III
2241, Drawing IV
2242, Figure Drawing III
2243, Figure Drawing IV
2250, Composition or Studio Elective
3340, Advanced Problems in Drawing I
3341, Advanced Problems in Drawing II
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
1210, Graphic Design I
1220, Graphic Design II
2220, Computer Art I **or** Studio Art Elective
2221, Computer Art II **or** Studio Art Elective
3310, Graphic Design III
3311, Graphic Design IV
3312, Special Techniques in Illustration and Graphic Design **or** Studio Art Elective
3383, Advanced Problems in Graphic Design I
3384, Advanced Problems in Graphic Design II
3389, Graphic Design Studio **or** Studio Art Elective
4497, Senior Seminar in Graphic Design I
4498, Senior Seminar in Graphic Design II
9 hours of Studio Art Electives

Painting
1180, Painting I
1181, Painting II
2250, Composition or Studio Elective
2280, Painting III
2281, Painting IV
3380, Advanced Problems in Painting I
3381, Advanced Problems in Painting II
4495/4496, Senior Studio Seminar (6 hours)
6 hours from the following list:
2240, Drawing III
2241, Drawing IV
2242, Figure Drawing III
2243, Figure Drawing IV
12 hours of Studio Art Electives

Photography
2250, Composition or Photography elective
2262, Color Photography I
2363, Digital Photography II
3260, Photography III
3362, Color Photography II
3363, Special Topics in Photography
3391, Advanced Problems in Photography I
3392, Advanced Problems in Photography II

4495/4496, Senior Studio Seminar (6 hours)
12 hours of Studio Art Electives
6 hours of Photography electives

Printmaking
1170, Printmaking I
2241, Drawing IV
2243, Figure Drawing IV
2250, Composition or Studio Elective
2271, Printmaking II
2274, Printmaking and Relief
3370, Advanced Problems in Printmaking I
3371, Advanced Problems in Printmaking II
4495/4496, Senior Studio Seminar (6 hours)
6 hours from the following list:
1173, Printmaking: Screen printing I
2272, Printmaking: Lithography I
2277, Printmaking: Photolithography
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 2000 level or above.

The following courses are required:
2250, Composition or Studio Elective
4495/4496, Senior Studio Seminar (6 hours)

Select 6 hours from the following:
3340, Advanced Problems in Drawing I and
3341, Advanced Problems in Drawing II or,
3370, Advanced Problems in Printmaking I and
3371, Advanced Problems in Printmaking II
3380, Advanced Problems in Painting I and
3381, Advanced Problems in Painting II or,
3391, Advanced Problems in Photography I and
3392, Advanced Problems in Photography II or,
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 4490, Art 4491, Art 4497, Art 4498, Art 4495, and Art 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 1100 and at least one course in non-Western art. They must also take at least 2 courses at the 3000 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:

1140, Drawing I
1141, Drawing II
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. 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 1060, Photography I
Indsc 3360/Art 3360, Photography and Society
Art 2160, Photography II
Art 2265, History of Photography
Art 3260, Photography III, **or**
Interdisciplinary 3390, 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 1100, Introduction to Western Art
Art 2262, Color Photography I
Art 2263, Introduction to Digital Photography
Art 2264, Non-Silver Photography
Art 2265, History of Photography
Art 2268, Video Art I
Art 2277, Printmaking: Photolithography
Art 3260, Photography III
Art 3362, Color Photography II
Art 3364, Video Art II
Art 3374, Philosophy 3374, Philosophy of Art
Art 3390, Special Studies

Art 3391, Advanced Problems in Photography I
Art 3392, Advanced Problems in Photography II
Biol 4784, Techniques in Electron Microscopy
Comm. 1050, Introduction to Mass Media
Comm. 1070, Introduction to Cinema
Comm. 2210, Television Production
English 3140/Comm 3214, News Writing
English 3150, Feature Writing
Indsc 3390, Independent Studies in Photographic Studies
Psych 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.

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, historic preservation, and arts administration.

Students with degrees in studio art find careers in teaching, advertising, public relations, graphic design, illustration, film and video production, arts 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 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: ART HISTORY 1100, 1103, 1104, 1105, 1108, 1109, 1110, 2211, 2212, 2213, 2214, 2225, 2235, 2237, 2238, 2240, 2245, 2250, 2255, 2265, 2270, 2272, 2279, 2281, 2291, 2295, 3303, 3360, 3365, 3374, 3375, 3376, 3385, 3390, 3391, 3393, 3394, 3395, 3396, 3397, 3398, 4405, 4408, 4411, 4425, 4435, 4445, 4455, 4465, 4475, 4481, 4490, 4495.

The following courses meet the Cultural Diversity requirement: ART HISTORY 1103, 1104, 1105, 1108, 1109, 1110, 4405, and 4408.

Art History

1100 Introduction to Western Art (3) [H]
An introduction to major historical movements in Western art.

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.

1104 Indigenous Arts of North America (3) [CD]
A survey of the indigenous arts of North America from pre-contact through the present. Cultures to be covered include Iroquois and Ojibway of the Northeast; Navajo and Pueblo of the Southwest; Kwaguith and Gitsxan of the Northwest Coast; and Inuit from the Arctic. The relationship of art to religion, philosophy, politics, and social life will be explored.

1105 Introduction to the Arts of Africa (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. This course satisfies the cultural diversity requirement.

1108 Introduction to the Arts of Asia (3) [H, CD]
A survey of the major achievements in architecture, sculpture, and painting of India, China, Japan and Southeast Asia, with an emphasis on religious, historical, and social context of the arts. This course satisfies the cultural diversity requirement.

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.

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.

2211 Art and Archaeology of the Ancient World (3) [H]
Prerequisite: Art 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.

2212 Greek Art and Archaeology (3)
Prerequisite: Art 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.

2213 Roman Art and Archaeology (3)
Prerequisite: Art 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.

2214 Early Christian and Byzantine Art (3)
Prerequisite: Art 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.

2225 Medieval Art (3)
Prerequisite: Art 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.

2235 Italian and Northern European Renaissance Art (3) [H]
Prerequisite: Art 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.

2237 Northern European Renaissance Art (3)
Prerequisite: Art 1100. A review of Flemish, "Franco-Flemish", and German paintings, illuminations, and prints during the fifteenth and sixteenth centuries, before and after Luther.

2238 Italian Renaissance Art (3)
Prerequisite: Art 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.

2240 French Art and Architecture 1400-1715 (3)
Prerequisite: Art 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.

2245 Baroque Art and Architecture (3)
Prerequisite: Art 1100 or permission of the instructor. A survey of the major paintings, statues, buildings, and their 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.

2250 Nineteenth Century European Art (3)
Prerequisites: Art 1100 or consent of the instructor. A survey of European art from 1780 to 1880, focusing on developments in England, France, Germany, and Scandinavia. Topics to be addressed include Neoclassicism, Romanticism, Realism, and Impressionism.

2255 Modern Art (3) [H]
Prerequisite: Art 1100 or consent of the instructor. A survey of art from 1880 to 1960. Topics to be addressed include Post-Impressionism, Cubism, Surrealism, Abstract Expressionism, and non-representational art.

2265 History of Photography (3)
Prerequisite: Art 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.

2270 American Art to 1876 (3)
Prerequisites: Art 1100 or consent of the instructor. An overview of the major developments in painting, sculpture, and the decorative arts in the United States to 1876.

2272 American Art since 1876 (3)
Prerequisites: Art 1100 or consent of the instructor. Major developments in American painting, sculpture, and the decorative arts since 1876.

2279 American Architecture (3)
Prerequisite: Art 1100 or consent of the instructor. An overview of American architectural practice from 1600 to the present.

2281 Art since 1960 (3)
Prerequisite: Art 1100 or consent of the instructor. A survey of art from 1960 to the present. Topics to be addressed include Pop Art, Conceptual Art, Minimalism, performance art, and other recent art forms and movements.

2291 Issues and Ideas in Art History (3)
Prerequisite: Art 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.

2295 Special Topics in Art History (1-3)
Prerequisite: Art 1100 or consent of instructor. Selected topics in art history. This course may be repeated for credit.

3303 Media and Technique in Art History (3)
Prerequisite: Art 1100, and two other courses in art history. Technical demonstration of 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.

3350 History of Modern Design (3)
Prerequisites: Art 1100 or consent of instructor.
The course examines the development of architectural, product, and graphic design within the context of the arts and crafts movement, the development of the modernist aesthetic, the industrial revolution, and the information age.

3360 Photography and Society (3)
Same as ID 3360. 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.

3365 The Artist and the City (3)
Prerequisite: Art 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.

3374 Philosophy of Art (3)
Same as Phil 3374. A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

3375 The Art of Print (3)
Prerequisite: Art 1100 or consent of the instructor. A study of the history of print forms: woodcuts, etchings, engravings, lithographs, silk-screens, monotypes, and mixed media. Special emphasis will be given to the importance of prints to the art and artists of our time.

3376 Women and the Visual Arts (3)
Prerequisite: Art 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 non-western society.

3385 Studies in Architectural History (3)
Prerequisite: Art 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.

3387 Professional Internship (1-6)
Prerequisites: Art 1100 and 6 additional credit hours in art history and consent of instructor. 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.

3388 Saint Louis Art Museum Internship (3)
Prerequisites: Art & Art History or Anthropology major, Art 1100 and 6 additional credit hours in art history or consent of instructor. Students selected by the Internship Committee will work 15-20 hours per week under the direction of staff at the Saint Louis Art Museum. Projects may include research on the collection, exhibitions, and programs.

3389 Visual Resources Management (1-3)
Prerequisites: Art 1100 and additional 6 credit hours in art history, or consent of instructor. A hands-on course in the Department of Art and Art History's media center that will cover collection development and management as well as technical and theoretical issues in the visual resources profession.

3390 Special Study (1-10)
Prerequisites: Junior or senior standing and consent of department and instructor. Independent study through readings, reports, or field research.

3391 Advanced Issues and Ideas in Art History (3)
Prerequisites: Art 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.

3394 Art Criticism (3)
Prerequisite: Art 2255 or Art 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.

3395 Sophomore/Junior Seminar: The Methods of Art History (3)
Prerequisites: Art 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.

3396 The Nude in Art (3)
Prerequisites: Art 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.

3397 Landscape Perspectives in Art (3)
Prerequisite: Art 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.

3398 The Portrait (3)
Prerequisite: Art 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.

4393 Art Museum and Gallery Management (3)
Prerequisites: Art 1100 and 6 additional credit hours in art history. This course will consider the practical application of professional training in art history as it applies to not-for-profit 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.

4405 Topics in the Arts of Africa (3) [CD]
Prerequisite: Art 1105 or consent of instructor. Intensive study of selected of selected topics in the arts of Africa. The content of the course will vary. May be repeated for credit with permission of instructor and adviser. This course satisfies the cultural diversity requirement.

4408 Topics in the Arts of Asia (3) [CD]
Prerequisite: Art 1108 or consent of instructor. Intensive study of selected topics in the arts of Asia. The content of the course will vary. May be repeated for credit with permission of instructor and adviser. This course satisfies the cultural diversity requirement.

4411 Topics in Ancient Art and Archaeology (3)
Prerequisites: One of the following: Art 2211, 2212, 2213, 2214, or consent of instructor. Intensive study of some aspect of ancient art and archaeology, with emphasis prior to the common era. May be repeated for credit with permission of instructor and adviser.

4425 Topics in Medieval Art (3)
Prerequisite: Art 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.

4435 Topics in Renaissance Art (3)
Prerequisite: Art 2235, 2237 or 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.

4445 Topics in Seventeenth and Eighteenth-Century European Art (3)
Prerequisite: Art 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.

4455 Topics in Modern Art (3)
Prerequisite: Art 2255 or consent of instructor. Intensive study of selected topics in art of the nineteenth and/or twentieth centuries. May be repeated for credit with permission of instructor and adviser.

4465 Topics in Photographic Studies (3)
Same as ID 4465. Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

4475 Topics in American Art (3)
Prerequisite: Art 2270 or 2272 or 2279 or consent of instructor. Intensive study of selected topics in American art. May be repeated for credit with permission of instructor and adviser.

4481 Topics in Contemporary Art (3)
Prerequisites: Art 1100 and Art 2281 or consent of the instructor. Intensive study of selected topics in art since 1960. May be repeated for credit with permission of instructor and adviser.

4490 Special Study (1-10)
Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research.

4492 Museum Studies (3)
Prerequisites: Art 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.

4495 Senior Art History Seminar (3)
Prerequisite: Art 3395, Eng 3100 and senior standing in art history or consent of instructor. Intensive reading, discussion, and writing on topics to be announced.

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.

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.

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.

6035 Foundations of Museology I (3)
Prerequisite: Consent of Director of Museum Studies Program. Same as Anth 6035 and Hist 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.

6036 Foundations of Museology II (3)
Prerequisite: Art 6035 and consent of Director of Museum Studies Program. Same as Anthr 6036 and Hist 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.

6037 Effective Action in Museums (3)
Prerequisite: Consent of Director of Museum Studies Program. Same as Anth 6037 and Hist 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.

6038 Museum Studies Master's Project (4)
Prerequisite: Consent of Director of Museum Studies Program. (Same as Anthro 6038 and Hist 6038). Research and writing/exhibit development on a selected topic.

Studio Art

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.

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.

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.

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.

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.

1130 Ceramics II (3)
Prerequisite: Art 1030. A continuation of Art 1030. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

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.

1133 Introduction to Fibers and Textiles (3)
Prerequisites: Art 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,

1134 Art Activities for Elementary Schools (3)
Same as Ele Ed 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.

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.

1141 Drawing II (3)
Prerequisite: Art 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.

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.

1143 Figure Drawing II (3)
Prerequisite: Art 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.

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.

1151 Design II (3)
Prerequisite: Art 1150. A continuation of Art 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.

1170 Printmaking I (3)
Prerequisite: Art 1150 and Art 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.

1173 Printmaking: Screen-printing I (3)
Prerequisite: Art 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.

1180 Painting I (3)
Prerequisite: Art 1140, Art 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.

1181 Painting II (3)
Prerequisite: Art 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.

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.

1220 Graphic Design II (3)
Prerequisite: Art 1220, Art 1150 and Art 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.

2160 Photography II (3)
Prerequisite: Art 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.

2210 Introduction to Typography (3)
Prerequisites: Art 1220 or consent of instructor. Typographic skills are often the single most important factor in determining the success of a graphic designer. This course intends to instill a sense of personal and social responsibility relative to typographic and publication design, while developing the student's capacity for critical thinking and general typographic aesthetic. Topics covered: conceptual typographic expression, typographic rules, visual hierarchy of typographic elements, classical typographic traditions, book design, awareness of typographic aesthetic.

2220 Computer Art I (3)
Prerequisite: Art 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.

2221 Computer Art II (3)
Prerequisite: Art 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.

2232 Sculpture II (3)
Prerequisite: Art 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.

2240 Drawing III (3)
Prerequisites: Art 1140 and Art 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.

2241 Drawing IV (3)
Prerequisite: Art 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.

2242 Figure Drawing III (3)
Prerequisites: Art 1142 and Art 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.

2243 Figure Drawing IV (3)
Prerequisite: Art 2242. 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.

2250 Composition (3)
Prerequisites: Art 1150 and Art 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.

2251 Design III (3)
Prerequisites: Art 1150 and Art 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.

2262 Color Photography I (3)
Prerequisite: Art 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.

2263 Introduction to Digital Photography (3)
Prerequisite: Art 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.

2264 Non-Silver Photography (3)
Prerequisites: Art 1060 and Art 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.

2265 Commercial Applications in Photography
Prerequisites: Art 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.

2268 Video Art I (3)
Prerequisite: Art 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.

2271 Printmaking II (3)
Prerequisite: Art 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.

2272 Printmaking: Lithography I (3)
Prerequisite: Art 1150 and Art 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.

2277 Printmaking: Photolithography I (3)
Prerequisite: Art 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.

2281 Painting IV (3)
Prerequisite: Art 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.

2283 Watercolor Painting (3)
Prerequisites: Art 1150 and Art 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.

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.

2363 Digital Photography II (3)
Prerequisite: Art 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.

3260 Photography III (3)
Prerequisite: Art 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.

3274 Printmaking and Relief (3)
Prerequisites: Art 1170 and Art 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.

3280 Painting III (3)
Prerequisite: Art 1181 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.

3310 Graphic Design III (3)
Prerequisites: Art 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.

3311Graphic Design IV (3)
Prerequisite: Art 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.

3312 Special Topics in Illustration and Graphic Design (3)
Prerequisite: Art 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.

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.

3340 Advanced Problems in Drawing I (3)
Prerequisite: Art 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

3341 Advanced Problems in Drawing II (3)
Prerequisite: Art 3340. A continuation of Art 3340. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

3362 Color Photography II (3)
Prerequisite: Art 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.

3363 Special Topics in Photography
Prerequisite: Art 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.

3364 Video Art II (3)
Prerequisite: Art 2268. 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.

3370 Advanced Problems in Printmaking I (3)
Prerequisite: Art 3274. 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.

3371 Advanced Problems in Printmaking II (3)
Prerequisites: Art 3370. A continuation of Art 3370. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

3372 Advanced Lithography (3)
Prerequisites: Art 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.

3380 Advanced Problems in Painting I (3)
Prerequisite: Art 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.

3381 Advanced Problems in Painting II (3)
Prerequisite: Art 3380. A continuation of portfolio production in Art 3380. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

3383 Advanced Problems in Graphic Design I (3)
Prerequisite: Art 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.

3384 Advanced Problems in Graphic Design II (3)
Prerequisite: Art 3383. A continuation of Art 3383. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

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.

3391 Advanced Problems in Photography I (3)
Prerequisite: Art 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.

3392 Advanced Problems in Photography II (3)
Prerequisite: Art 3391. A continuation of Art 3391. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

4389 Graphic Design Studio (3)
Prerequisite: Art 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.

4490 Senior Seminar in Photography I (3)
Prerequisites: Senior standing and Art 3392. 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.

4491 Senior Seminar in Photography II (3)
Prerequisites: Senior standing and Art 4490. 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 Spring semester.

4495 Senior Studio Seminar (3)
Prerequisites: Senior standing and Art 3381, 3341, 3392 or 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.

4496 Senior Studio Seminar (3)
Prerequisites: Senior standing and Art 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.

4497 Senior Seminar in Graphic Design I (3)
Prerequisite: Senior standing and Art 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.

4498 Senior Seminar in Graphic Design II (3)
Prerequisite: Art 4497. Continuation of Art 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
Donald Shields, Professor Emeritus
Ph.D., University of Minnesota
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
Su Ahn Jang, Assistant Professor
Ph.D., University of Texas
Yan Tian, Assistant Professor
Ph.D., Temple University
Jina Yoo, Assistant Professor
Ph.D., Michigan State University
Alan Akerson, Lecturer
M.A., University of Missouri-St. Louis
Leighanne Heisel, Lecturer
M.A., West Virginia University
Clark McMillion, Lecturer
M.A., State University College of New York at Brockport

*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 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. 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 tailor a specific concentration to meet the student's individual needs and interests. The faculty encourages all students to meet early and often with their faculty adviser 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, 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.

Degree Requirements

Bachelor of Arts in Communication:
Majors must complete a minimum of 36 semester hours in Communication courses. At least 18 of these must be taken at UM-St. Louis. Furthermore, at least 12 semester hours of the Communication courses completed must be numbered 3000-4999. Finally, all students must complete the required courses.

Required courses for the major:

1030, Interpersonal Communication I
1050, Introduction to Mass Media
1135, Communication Theory
2231, Communication in the Organization
3332, Intercultural Communication

At least 3 hours from practicum courses (1193, 1194, 1197 or 1198) or internship courses (3393, 3394, 3396, or 3397).

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 Engl 3600, The Curriculum and Methods of Teaching English (same as SEC ED 3600).

Department Activities and Internships
Cocurricular projects and activities relevant to student interests and vocational plans are sponsored and advised by the department. In addition to the traditional classroom

experience, students receive practical training in internships at community agencies, 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

Coursework for a minor in Communication consists of 15 semester hours of the core requirements for the major. Credit hours in Comm 1195, and/or Comm 3395, may be substituted for credit hours listed below with written consent of the communication department chairperson.

Core Requirements:

Com 1030, Interpersonal Communication I
Com 1050, Introduction to Mass Media
Com 1135, Communication Theory
Com 2231, Communication in the Organization
Com 3332, Intercultural Communication

At least 9 of the 15 hours required for the minor must be taken at UM-St. Louis.

A minimum GPA of 2.5 is required in the minor.

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. The minimum cumulative GPA required for regular admission to the graduate program in communication is 3.25 on a 4-point scale. Three letters of recommendation, at least two of which address the applicant's potential to succeed in graduate studies in communication, are also required. Finally, International students must obtain a TOEFL score of at least 600 (233 for the computer-based exam) to be considered for admission.

Degree Requirements:
Candidates selecting the thesis or internship option for the M.A. degree will complete at least 30 semester hours of approved study, at least 21 of which must be taken in courses offered by the department. Candidates electing the non-thesis, non-internship option must complete 36 semester hours of approved study, 27 of which must be taken in courses offered by the department.

Communication
6400, Seminar in Communication Theory
6405, Introduction to Communication Research Methods
6411, Seminar in Mass Communication
6431, Seminar in Organizational Communication
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 the student selects either the 36 hour or the 30 hour program and, in the latter case, selects the appropriate exit project with input from prospective exit project committee members, . The internship option requires submission of an essay in which the coursework and internship experiences are integrated. Internship essay and thesis must be approved by the student's committees and assigned a grade by the advisor. 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: promotion and public relations, administration, advertising, marketing, Web page design, market research, corporate media, sales, training, speech writing, teaching, and research. Other students have pursued graduate education in communication programs 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 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: 1070,1160, 2271, 2272, 3337, 3340, 3341, 3342, 3343, 3344, 3350,3352.
The following courses fulfill the Social Sciences breadth of study requirements:
1065,1135, 2218, 2230, 2231, 2243, 3330, 3331 3332, 3333, 4335,3350, 3354, 4356.

1030 Interpersonal Communication I (3) [C]
Introduction to the theories of interpersonal communication. Emphasis on basic principles involved in one-to-one interactions.

1040 Introduction to Public Speaking (3) [C]
Theories and techniques of organization, evidence, argumentation, persuasion, and delivery in public speaking.

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.

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.

1130 Interpersonal Communication II (3)
Prerequisite: Comm 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.

1135 Communication Theory (3)
Survey of elements and processes critical to human communication behavior. Comparison of influential communication theories.

1140 Advanced Public Speaking (3)
Prerequisite: Comm 1040. Application of advanced public speaking skills, with emphasis on special occasion speaking situations.

1141 Business and Professional Speaking (3)
Prerequisite: Comm 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.

1143 Parliamentary Procedure (2)
Prerequisite: Comm 1040. Study and practice in rules of procedure by which self-governing groups transact business.

1150 Introduction to Public Relations (3)
Prerequisite: Comm 1040 or 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.

1160 Fundamentals of Oral Interpretation (3)
Prerequisite: Comm 1040 or consent of instructor. An introduction to the analysis of literature and to the principles of its oral presentation by the interpreter.

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.

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.

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.

2230 Small Group Communication (3)
Prerequisite: Comm 1040. Development of communication skills needed in small group decision making. Application of these skills to contemporary problems.

2231Communication 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.

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.

2240 Persuasive Communication (3)
Prerequisite: Comm 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.

2241 Argumentation and Debate (3)
Prerequisite: Comm 1040, or 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.

2243 Communication in American Politics (3)
Prerequisite: Comm 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.

2271 History of Film to World War II (3)
Prerequisite: Comm 1070 or consent of instructor. History of world cinema from the late nineteenth century to the 1940s.

2272 History of Film Since World War II (3)
Prerequisite: Comm 1070 or consent of instructor. History of world cinema from the 1940s to the present day.

3330 Research Methods in Communication I (3)
Prerequisite: Comm 1135. Introduction to the fundamental tools of quantitative research in communication. Focus of the course is on reading and comprehending communication research reports rather than conducting quantitative research.

3331 Research Methods in Communication II (3)
Prerequisite: Comm 3330. Extends the study of research methods covered in Com 3330 to the planning and executing of research projects. Students acquire data analysis, research design, and basic measurement skills. Problems of quantitative study unique to the study of communication are explored.

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.

3333 Communication Audit (3)
Prerequisite: Comm 2231. The application of specific empirical research designs to evaluate communication flows, effectiveness, or channels in complex organizations.

3336 Communication in Advertising (3)
Prerequisites: Comm 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 .

3337 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.

3340 Rhetorical Criticism (3)
Prerequisite: Comm 1040. The application of rhetorical theories to the analytical and critical explanation of persuasive messages.

3341 Classical Rhetoric and Public Address (3)
Prerequisite: Comm 1040 or consent of instructor. A survey of the history and theories of persuasion and public address from ancient times to the Renaissance.

3342 Modern Rhetoric and Public Address (3)
Prerequisite: Comm 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.

3343 The Rhetoric of Protest (3)
Prerequisite: Comm 1040. An examination of the persuasive messages and tactics used in social movements and their campaigns.

3344 Advanced Argumentation Theory (3)
Prerequisite: Comm 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.

3345 Theory and Practice of Interviewing (3)
Prerequisite: Comm 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.

3346 Advanced Interviewing Techniques (3)
Prerequisite: Comm 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.

3352 Mass Media Criticism (3)
Prerequisite: Comm 1050 or 1060. The study of media content and its effect on society. Reading and viewing of selected works. Independent reading and critical analysis required.

3358 Communication in Public Relations (3)
Prerequisite: Comm 1150. An overview of communication within the area of public relations. Emphasis on ethics, law, professional standards, and written communication. Case study approach.

3360 Health Communication (3)
Prerequisite: Comm 1030, 1040, or 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.

3362 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.

3392 Administration of Cocurricular Activities (3)
Prerequisites: Communication 1040 or Consent of Instructor. A survey of skills required to administer the various cocurricular activities associated with teachers who teach speech and communication courses in the secondary schools. Practical experience in skills such as: operation of debate tournaments, public speaking competitions, and mock trial competitions.

3395 Special Topics in Communication (3)
Prerequisite: Senior or graduate standing. In-depth study of topics pertaining to current research in the department. May be repeated up to six credit hours if topic is different.

4035 Integrated Approaches to Public Relations, Advertising, and Promotion (3)
Prerequisite: Comm 3336 and Comm 3358.
Overview of how publicity, advertising and other promotional activities can be integrated into a single cohesive communication initiative or program.

4335 Seminar in Applied Communication Research (3)
Prerequisites: Comm 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.

4390 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.

4391 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.

4393 Internship in Applied Communication (3-6)
Prerequisites: Senior standing, with a least 12 hours of course work in Communication, consent of instructor; open to communication majors only. Advanced practical work in business and organizational communication, public relations, or campaign communication. Work must be done under the supervision of a working 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.

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.)

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.)

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.

6411 Seminar in Mass Communication (3)
Examines the communication research literature pertaining to media planning, content, and effects. A broad range of media forms and possible effects are considered.

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.)

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.)

6445 Seminar in Advanced Organizational Communication (3)
Prerequisite: Com 6431. Extends the exploration of communication in organizations covered in Com 6431 to more advanced quantitative models of organizational communication. Focuses heavily on the quantitative studies published in communication research literature.

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.

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.

6491 Supervised Research in Communication (1-3)
Prerequisites: Graduate Standing, Special Consent
Collaborative research with a faculty member on a communication topic of mutual interest. May be repeated up to 10 hours.

6492 Practicum in Computer-Mediated Communication (1-3)
Prerequisites: Graduate Standing, Special Consent
Collaborative research with a faculty member on a communication topic of mutual interest. May be repeated up to 6 hours.

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.

6498 Thesis Research and Preparation (1-10)
Prerequisites: Graduate standing. Individual research for and preparation of the graduate thesis.

6499 Graduate Internship (3-6)
Prerequisites: Graduate standing and approval of graduate coordinator. Individual on-site internship in organizational or mass communication setting.

The following courses have been moved to Media Studies:

Original	Course #	Course Title
Comm	1065	Introduction to Information Technology
Comm	1070	Introduction to Cinema
Comm	1108	Advertising Copywriting
Comm	1110	Introduction to Radio and Television Broadcasting
Comm	1113	Basic Television Studio Production
Comm	1114	Radio Production I
Comm	1118	Radio and Television Announcing
Comm	1196	Practicum in Radio
Comm	1197	Practicum in Television/Film
Comm	2210	Television Production I
Comm	2212	Broadcast Writing and Reporting
Comm	2215	Radio Production II
Comm	2216	Radio News
Comm	2217	Script Writing for Business and Industry
Comm	2118	Public Policy in Telecommunication
Comm	2119	Promotion, Publicity, and Advertising in Broadcasting
Comm	2228	Public Relations Writing
Comm	2256	International Communication
Comm	3214	News Writing
Comm	3310	Television Production II
Comm	3311	Broadcast Management
Comm	3313	Advanced Video Editing
Comm	3316	Television News
Comm	3317	Radio and Recording Industry
Comm	3334	Advertising Media Planning
Comm	3336	Communication in Advertising
Comm	3350	Mass communication History
Comm	3354	Comparative Telecommunication Systems
Comm	3355	Media Law and Regulation
Comm	3360	Health Communication
Comm	3370	Documentary Film
Comm	3394	Internship In Journalism
Comm	3395	Special Topics in communication
Comm	3396	Internship in Radio
Comm	3397	Internship in Television/Film
Comm	4357	Media Ethics

Department of Music

Faculty

James Richards, Professor*, Chair
Ph.D., University of Rochester, Eastman School of Music
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 Emeritus of Music Education*
D.Ed., Washington University
Mark Madsen, Professor
D.M.A., University of Arizona
Kenneth E. Miller, Professor Emeritus
Ph.D., Northwestern University
Evelyn Mitchell, Professor Emerita
Arnold Perris, Professor Emeritus
Ph.D., Northwestern University
Barbara Harbach, Professor*
D.M.A., Eastman School of Music
Robert J. Ray, Professor*
B.M., Northwestern University
Diane Touliatos, Professor*
Ph.D., Ohio State University
Fred Willman, Professor*
Ph.D., University of North Dakota
James E. Henry, Associate Professor*
Ph.D., Washington University
Leonard Ott, Associate Professor*
Ph.D., Michigan State University
William Richardson, Associate Professor*
Ph.D., University of Kansas
Kurt S. Baldwin, Arianna String Quartet, Artist-in-Residence (violoncello)
M.M., New England Conservatory of Music
Robert Meyer, Arianna String Quartet, Artist in Residence (Viola)
M.M., Rice University
John McGrosso, Arianna String Quartet, Artist in Residence (Violin)
M.M., Juilliard School of Music
David Gillham, Arianna String Quartet, Artist in Residence (Violin)
M.M., Peabody Conservatory
James Widner, Artist in Residence (Jazz)
M.A., Memphis State University
William Hammond, Affiliate Associate Professor (World Music/Music Appreciation, Aural Training, French Horn)
D.Ed. Boston University
Carol Koch, Senior Lecturer (Music Ed./Piano)
M.M.E., University of Missouri-St. Louis
Robert A. Borgstede, Lecturer (Jazz Guitar)
M.M., Southern Illinois University-Edwardsville
Jennifer Garrison Brown, Lecturer (Flute)
B-.M.E., University of North Texas
Matthew Henry, Lecturer (Percussion)
M.M., Performance, Webster University
Ann Homann, Lecturer (Oboe)
M.M., St. Louis Conservatory of Music
Joseph Kaminsky, Lecturer (Strings)
M.M., Southern Illinois University-Edwardsville
Kenneth W. Kehner, Lecturer (Jazz Piano)
B.M., Truman State University
Katharine Lawton-Brown, Lecturer, (Voice) Director, Premiere Performance Concert Series
M.M., James Madison University
Robert Mottl, Lecturer (Bassoon)
M.M., Indiana University
Gerry Pagano, Lecturer (Trombone, Euphonium, Tuba)
M.M., Juilliard School of Music
Alan Rosenkoetter, Lecturer (Guitar)
B.S., Washington University
Larry A. Smith, Lecturer (Saxophone and Jazz Saxophone)
Associate, Community College of the Air Force
Sue Stubbs, Lecturer (Double Bass)
M.M., University of Missouri-Columbia
Andrew Tichenor, Lecturer (Trumpet and Jazz)
B.A., Southern Illinois University-Edwardsville
Miles Vandiver, Lecturer (Jazz Percussion)
B.A., Southern Illinois University-Edwardsville
Alla Voskoboynikova, (Piano)
M.M., Gnessins Academy of Music-Moscow, Russia
Jeanine York-Garesche, Lecturer (Clarinet)
M.M., St. Louis Conservatory of Music
Meiko Hironaka-Bergt, Specialist (Piano)
M.M. Toho Academy of Music
Vera Parkin, Specialist (Piano)
M.M., Southern Illinois University at Edwardsville
Donna Pyron, Specialist (Piano)
B.M., University of Missouri-Columbia
Sharon Tash, Specialist (Piano)
B.A., University of Missouri-St. Louis

*members of graduate faculty

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 professional musicians.

The music department is accredited by the National Association of Schools of Music.

Membership in Music Department performing ensembles (choral, orchestral, band, jazz, chamber, etc.) is open to UM-St. Louis students in all majors and minors. Admission to most ensembles is by audition (consent of the instructor). Music 1400, University Chorus, is open to all university students without audition.

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, some of whom 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 The Department's facilities, classrooms, studios, practice rooms, and listening labs are located in the Music Building. Rehearsal rooms are in the Villa.

Ensembles Fourteen performing ensembles are open to all by audition with credit optional:
1400, University Chorus
1410, The University Singers
1500, University Orchestra
1520, University Band
1530, University Wind Ensemble
1541, Chamber Ensemble Brass
1542, Jazz Combo
1543, Chamber Ensemble Percussion
1544, Chamber Ensemble Strings
1545, Chamber Ensemble Voice
1546, Chamber Ensemble Woodwind
1550, Jazz Ensemble
1560, Opera Workshop
1600, Advanced Opera Workshop

Each year about 50 recitals and concerts are presented.

Additional information may be obtained by contacting us: Department of Music: (314) 516-5980, http://www.umsl.edu/~music/

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. Students must receive at least a C- in each music course and maintain an overall GPA of 2.5 in all music courses to meet degree requirements.

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 1400, University Chorus; 1410, University Singers; 1500, University Orchestra; 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. Department courses, which meet the non-Euro-American study requirement, are Music 1090, Non-Western Music I, and Music 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, placement examinations in music theory and music history may be required to confirm students' prior experience in these areas. Auditions are scheduled from January to May for the fall semester; a limited number are held in December for the spring/winter semester. Students in applied music must pass a junior-standing examination to confirm their level of performance skills for enrollment in Music 3440 – 3459 or Music 4440 – 4459. This examination is usually taken at the same time as the applied music jury for the fourth semester of enrollment in Music 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 (University Band, University Singers, University Chorus, or University 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—University Band; string students--University Orchestra; voice students --University Singers or University Chorus; 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 2180, Intermediate Piano Proficiency, or equivalent for instrumentalists, or Music 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
1301, Theory of Music I
1302, Aural Training I
1311, Theory of Music II
1312, Aural Training II
2301, Theory of Music III
2302, Aural Training III
2311, Theory of Music IV
2312, Aural Training IV
3410, Orchestration

Piano Proficiency
1140, Piano Proficiency
1150, Piano Proficiency
2160, Intermediate Piano Proficiency
2180, Intermediate Piano Proficiency

Music History and Literature
1010, History of Western Music I
1020, History of Western Music II
and at least one upper level history course **4000 – 4270**.

Applied Music
1460, 3460, 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:
2510, Conducting I
3920, Senior Research
1090, Non-Western Music I, **or**
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 music core curriculum, candidates must complete the following:

General Education Requirements
At least one course from two of the following fields: music (excluding applied music), art, foreign language, Western and Non-Western cultures, philosophy, literature, classical studies, and theatre and drama.

Communication Skills
At least **two** courses in English composition and **one** in oral communications.

Social Studies
Courses in American history, American government and general psychology.

Natural Science
One course in 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 in the General Education Requirement Area must be a minimum of two semester hours.)

Applied Area 7 credit hours of private lessons

Practicum
2510, Conducting I

Instrumental Certification
1250, 1260, 1270, 1280, Instrumental Techniques
3521, Conducting II – Instrumental
2610, Elementary School Instrumental Literature Laboratory
3620, Junior – Senior High School Instrumental Literature Laboratory

Vocal Certification
1250, Singer's Diction: English, Italian and German
1260, Singer's Diction: Latin, French, and Spanish
3190, Intermediate Piano Proficiency
3290, Intermediate Piano Proficiency
3420, Choral Arranging
3430, Instrumentation and Score Technique (in lieu of Music 3410)
3522, Conducting II – Choral
2611, Elementary School Choral Literature Laboratory
3621, Junior – Senior High School Choral Literature Laboratory

For vocal certification students whose applied area is not voice, the following course is also required:
1240, Intermediate Vocal Techniques

Ensemble 4 hours maximum credit

Ensemble 4 hours maximum credit

Curriculum ad Methods of Teaching
***3570,** Curriculum and Methods of Teaching Elementary School Music
***3670,** Philosophic and Practical Foundations of the Secondary Music Education Curriculum

Instrumental Certification
***3680,** Curriculum and Methods of Teaching Instrumental Music I
***3700,** Curriculum and Methods of Teaching Instrumental Music II

Vocal Certification
***3690,** Curriculum and Methods of Teaching Middle School/Junior High School General Music
***3710,** Curriculum and Methods of Teaching Secondary Choral Music

*Must be taken **in residence** before enrolling in Secondary Education 3293 and Secondary Education 3294.

Proficiency Exam Students working toward certification in choral/vocal or instrumental music K-12 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

Level I Courses:
Tch Ed 2210, Introduction to Teaching
Tch Ed 2211, Introduction to Schools
Tch Ed 2212, Introduction to Learners

Level II Courses:
Tch Ed 3310, Introduction to Instructional Methodology
Tch Ed 3312, Psychology of Teaching and Learning
Tch Ed 3313, The Psychology and Education of Exceptional Individuals
Sec Ed 4391, Teaching Reading in Secondary School Content Area

Level III Courses:
Sec Ed 3293, Student Teaching in Music, K-6
Sec Ed 3294, Student Teaching in Music 7-12

Bachelor of Music with an Emphasis in Performance

In addition to the required core curriculum, candidates must complete the following:

1090, Non-Western Music I, **or**
1100, Non-Western Music II
1560, Piano Pedagogy (Keyboard students only)
2510, Conducting I
3110, Analysis of Twentieth-Century Techniques
3120, Tonal Counterpoint
3190, Intermediate Piano Proficiency (voice majors only)
3521 or 3522, Conducting II

3920, Senior Research

3290, Intermediate Piano Proficiency (voice majors only)

Music History and Literature
An additional upper level course is required 4000-4270.

Applied Area
12 credit hours of Applied Music, including 8 credit hours at the Music 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 4440-4459.

Ensemble Participation required as follows:
Large Ensemble 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.

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 4000 – 4459 level course is required.
1090, Non-Western Music I, **or**
1100, Non-Western Music II

Practicum
2510, Conducting I

Ensemble 4 hours maximum credit

Internship
4920, Internship (replaces Music 3920 Senior Research in Core Curriculum)

English - One of the following English courses is required:
3100, Advanced Expository Writing
3120, Business Writing
3130, Technical Writing

Business Administration The following courses in business administration are required:
2400, Fundamentals of Financial Accounting
2410, Managerial Accounting
3700, Basic Marketing
3600, Management as a Behavioral Science I

1800, Computers and Information Systems
2900, Legal Environment of Business
3270, Management of Promotion
3441, Income Taxes
3500, Financial Management
3611, Advanced Management and Organizational Behavior
3621, Human Resource Management
3622, Industrial and Labor Relations
3710, Consumer Behavior
3900, Business Law: Contracts, Sales, Secured Transactions, Bankruptcy

Note: The following courses fulfill general education requirements and are prerequisites to the required business administration courses:
Psych 1003, General Psychology, **or**
Sociology 1010, Introduction to Sociology
Economics 1001, Principles of Microeconomics

Curricula for Minors

Minor in Music
Candidates must complete the following courses (26 hours):
Music Theory
1301, Theory of Music I
1302, Aural Training I
1311, Theory of Music II
1312, Aural Training II

Music History and Literature
1010, History of Western Music I
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:
2160, Intermediate Piano Proficiency (Prerequisite: Music 1150)
2180, Intermediate Piano Proficiency
2301, Theory of Music III
2302, Aural Training III
2311, Theory of Music IV
2312, Aural Training IV
3410, Orchestration

Any 4200-level music history and literature course

Music education methods courses and instrumental techniques courses may not be taken to complete this minor.

Non-keyboard players are required to pass an exam of piano proficiency Music 1150 or equivalent.

A GPA of 2.5 for all music hours is required to complete this minor.

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
1301, Theory of Music I
1302, Aural Training I
1311, Theory of Music II
1312, Aural Training II

Music History and Literature
1010, History of Western Music I
1020, History of Western Music II

Music Education
3570, Curriculum and Methods of Teaching Elementary School Music*
3670, Philosophic and Practical Foundations of the Secondary Music Education Curriculum*
3690, Curriculum and Methods of Teaching Middle School/Junior High School General Music*

*Elementary education majors will omit Music 3770 from their regular elementary program to take these courses. Also required, as applicable, is Sec Ed 4399, Student Teaching.

Practicum
1140/1150, Piano Proficiency
2160/2180, Intermediate Piano Proficiency
2510, Conducting I
2611, Elementary School Choral Literature Laboratory
3621, Junior-Senior High School Choral Literature Laboratory

Ensemble
1400/1410, University Chorus or University Singers

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
1301, Theory of Music I
1302, Aural Training I
1311, Theory of Music II
1312, Aural Training II
1320, Theory of Jazz

Music History and Literature
1020, History of Western Music II
1070, Introduction to Jazz
Applied Area 4 credit hours of private lessons

Jazz Improvisation
1200, Jazz Improvisation Laboratory (2 credit hours/ Music 1200 repeated)

Piano Proficiency
1140/1150, Piano Proficiency
2160, Intermediate Piano Proficiency
2170, Jazz Keyboard Harmony

Ensemble 2 credit hours minimum, to be selected from:
1542, Jazz Combo
1545, Chamber Ensemble Voice
1550, Jazz Ensemble

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)
5810, Foundations of Music Education (3)
5910, Music Education Research (3)
5990, Master's Project in Music Education (3)

Advanced Methods (3 credits from the following)
5510, Graduate Instrumental Methods (3)
5610, Graduate Choral Methods (3)
5710, General Music: A Model for Multi-Faceted Musical Learning (3)

Choose 9 credits from the following:
5010, Studies in Style and Performance (3)
5020, Choral Literature (3)
5030, Band Literature (3)
5040, Orchestra Literature (3)
5110, Scoring and Arranging (3)
5210,Advanced Conducting (3)
5620, Guitar in the Classroom (3)
5750, Microcomputer Applications in Music Education (3)
5760, Microcomputer Assisted Instruction Curriculum Development in Music (3)
5770, Graduate Microcomputer Applications in Music (3)
5920, Psychology of Music (3)

Cognate in Education

Choose one 3-credit curriculum course such as:
Sec Ed 6415, The Secondary School Curriculum (3)
Ele Ed 6422, Curriculum Construction in Elementary Schools (3)

Choose one other 3-credit education course such as:
Ed Rem 5730, Educational Statistics (3)
Ed Fnd 6421, Philosophy of Education (3)
Sec Ed 6425, Secondary School Supervision (3)
Ele Ed 6425, Elementary School Supervision (3)
Ed Rem 6707, Classroom Testing and Measurement (3)
Ed Rem 6710, Educational Research Methods (3)

Electives

Choose 5 credits from elective courses such as:
4010, Marching Band Techniques (3)
5020, Choral Literature (3)
5030, Band Literature (3)
5040, Orchestra Literature (3)
5060, Graduate Workshop in Music Education (1-3)
5070, Techniques and Literature for the Jazz Ensemble (3)
5110, Scoring and Arranging (3)
5120, Advanced Composition Techniques (3)
5130, Teaching Music Theory in the High School (3)
5210, Graduate Conducting (3)
5310, Graduate Chamber Ensemble (0)
Ed Tec 5340, Selection and Utilization Education Media (3)
5430, Special Applied Studies (1)
5440, Graduate Applied Studies (1)
5490, Graduate Ensemble (1)
5510, Graduate Instrumental Methods (3)
5520, Instrumental Music Administration (3)
5610, Graduate Choral Methods (3)
5620, Guitar in the Classroom (3)
5650, Music Theatre in the School (3)

5710, General Music: A Model for Multi-Faceted Musical Learning (3)
5720, Electronic Music Techniques for Teachers (3)
5730, Individualizing Music Instruction (3)
5740, Techniques of Group Keyboard Instruction (3)
5750, Microcomputer Applications in Music Education (3)
5760, Microcomputer Assisted Instruction: Curriculum Development in Music
5770, Graduate Microcomputer Applications in Music (3)
5800, Musical Acoustics (3)
5820, School Music Administration and Supervision (3)
5830, Contemporary Music Education (3)
5840, Problems of Urban Music Education (3)
5920, Psychology of Music (3)
5950, Special Problems in Music Education (3)
Spc Ed 6412, Psychology of Exceptional Children (3)
Sec Ed 6414, Teaching the Gifted/Talented in the Secondary School (3)
Sec Ed 6418, The Junior High/Middle School (3)
Sec Ed 6427, Supervision of Clinical Experiences in Teacher Education (3)
Sec Ed 6429, The Department Head (3)
Ed Rem 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 our own Master of Music Education degree program. 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 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: 1001,1010, 1020, 1030, 1050, 1060, 1070, 1080, 1090, 1100, 1110, 1190, 1301, 1311, 1320, 2301, 2311, 3020, 3770, 3920, 4000, 4210, 4220, 4230, 4240, 4250, 4260, 4270, 5000, 5750.

The following music history courses satisfy the Cultural Diversity requirement: Music 1090 and 1100

Applied Music

1410 – 1429 Secondary Applied Music (1)
Prerequisites: By audition and consent of department. Courses are offered in the following areas: 1410-bassoon; 1411-clarinet; 1412-classical guitar; 1413-euphonium; 1414--flute; 1415-French horn; 1416-harp; 1417-oboe; 1418-organ; 1419-percussion; 1420-piano; 1421-saxophone; 1422-trombone; 1423-trumpet; 1424-tuba; 1425-violin; 1426-viola; 1427-violoncello; 1428-string bass; 1429-voice. Not applicable to the applied music requirement for music majors or music minors. May be repeated for credit.

1430 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.

1440 – 1459 Applied Music (1)
Prerequisites: By audition and consent of department. Courses offered in the following areas: 1440- bassoon; 1441-clarinet; 1442-classical guitar; 1443-euphonium; 1444-flute; 1445-French horn; 1446-harp; 1447-oboe; 1448-organ; 1449-percussion; 1450-piano; 1451-saxophone; 1452-trombone; 1453-trumpet; 1454-tuba; 1455-violin; 1456-viola; 1457-violoncello; 1458-string bass; 1459-voice. May be repeated, up to 4 credit hours. Applied Music registration requires concurrent registration in a large ensemble and seminar Music 1460.

1460 Seminar in Pedagogy and Literature (0)
Prerequisites: 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 grading basis.

3440 – 3459 Applied Music (1)
Prerequisite: The completion of Junior Standing Exam in major applied area. Courses offered in the following areas: 3440-bassoon; 3441-clarinet; 3442-classical guitar; 3443-euphonium; 3444- flute; 3445-French horn; 3446-harp;

3447-oboe; 3448-organ; 3449-percussion; 3450- piano; 3451-saxophone; 3452-trombone; 3453-trumpet; 3454-tuba; 3455-violin; 3456-viola; 3457-violoncello; 3458-string bass; 3459-voice. May be repeated, up to 6 credit hours. Applied Music registration requires concurrent registration in a large ensemble and seminar Music 3460.

3460 Seminar in Pedagogy and Literature (0)
Prerequisite: Concurrent registration with parallel Applied Music course. Seminars in pedagogy and literature are offered for all areas of Applied Music. May be taken on satisfactory/unsatisfactory grading basis.

4440 – 4459 Applied Music (2)
Prerequisites: Completion of Junior Standing Exam in major applied area and admission to Performance Degree Program. Courses offered in the following areas: 4440-bassoon; 4441-clarinet; 4442-classical guitar; 4443-euphonium; 4444-flute; 4445-French horn; 4446-harp; 4447-oboe; 4448-organ; 4449- percussion; 4450- piano; 4451-saxophone; 4452-trombone; 4453-trumpet; 4454-tuba; 4455-violin; 4456-viola; 4457-violoncello; 4458-string bass; 4459-voice. May be repeated, up to 12 credit hours. Applied Music registration requires concurrent registration in a large ensemble and seminar Music 4460.

4460 Seminar in Pedagogy and Literature (0)
Prerequisite: Concurrent registration with parallel Applied Music course. Seminars in pedagogy and literature offered for all areas of Applied Music. May be taken on satisfactory/unsatisfactory basis.

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.

5440 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

1400 University Chorus (1)
Prerequisite: Consent of instructor. Preparation and performance of choral literature.

1410 The University Singers (1)
Prerequisite: Consent of instructor. Study and performance of music for vocal chamber ensemble.

1500 University Orchestra (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of orchestral repertory.

1520 University Band (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of music for the wind ensemble and band.

1530 University Wind Ensemble (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of music for wind ensemble and chamber band.

1541 –1546 Chamber Ensemble (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of music for small ensembles: 1541-brass; 1542-jazz combo; 1543-percussion; 1544-strings; 1545-voice; 1546-woodwinds.

1550 Jazz Ensemble (1)
Prerequisite: Consent of instructor. Study, preparation, and performance of jazz music for big band.

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.

1570 Music Theatre Ensemble (1)
Prerequisite: Consent of instructor. Course provides practical experience in vocal performance, acting, and stage movement/choreography through rehearsal and performance in Music, Theatre and Dance Department music theatre productions. Required of all cast members. Laboratory time will be scheduled and will include evening and weekend rehearsals and performances. May be repeated for credit.

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.

5310 Graduate Chamber Ensemble (1)
Prerequisite: Graduate standing in music and consent of department. Study and performance of traditional and nontraditional chamber literature.

5490 Graduate Ensemble (1)
Prerequisite: Graduate standing in music and 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

3570 Curriculum and Methods of Teaching Elementary School Music (3)
Same as Ele Ed 3277. Prerequisites: Music 2311/2312 and Level I Education courses 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.

3670 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)
Same as Sec Ed 3275. Prerequisites: Music 2311,2312, Music 3570, Ele Ed 3277and Level I Education courses. Concurrent registration in Music 3680/Sec Ed 3576 and Music 3700/Sec Ed 3278 or Music 3710/Sec Ed 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.

3680 Curriculum and Methods of Teaching Instrumental Music I (2)
Same as Sec Ed 3276. Prerequisites: Music 2311,2312, 3410, 2510, 2610, Level I Education courses and two of the following: Music 1250, 1260, 1270, and Music 1280. Concurrent registration in Music 3570/ Ele Ed 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.

3690 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)
Same as Sec Ed 3277. Prerequisites: Music 2311, 2312, Music 3570/Ele Ed 3277, and Level I Education courses. Concurrent registration in Music 3670/Sec Ed 3275 and Music 3710/Sec Ed 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.

3700 Curriculum and Methods of Teaching Instrumental Music II (2)
Same as Sec Ed 3278. Prerequisites: Music2311,2312, 3521, 3620, Music 3570/Ele Ed 3277, Music 3680/Sec Ed 3276, Level I Education courses and three of the following: Music 1250, Music 1260, Music 1270, Music 1280. Concurrent registration in Music 3670/Sec Ed 3275. A continuation of Music 3680/Sec Ed 3276. Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation. This course must be completed in residence.

3710 Curriculum and Methods of Teaching Secondary Choral Music (2)
Same as Sec Ed 3279. Prerequisites: Music 2311,2312, Music 3570/Ele Ed 3277, and Level I Education courses. Concurrent registration in Music 3670/Sec Ed 3275 and Music 3690/Sec Ed 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.

3770 An Introduction to Music for the Elementary School Teacher (3)
Same as Ele Ed 2177. 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.

4000 Advanced Techniques in Music Education (1-2)
Prerequisite: A 3000 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.

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.

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.

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.

5060 Graduate Workshop in Music Education (1-5)
Prerequisite: Graduate standing and consent of instructor. Intensive workshop in music education. Variable topics. To gain skills and knowledge in specific areas not readily available in existing courses.

5070 Techniques and Literature for the Jazz Ensemble (3)
Prerequisite: Graduate standing in music. An examination of jazz music education. Includes methods, materials, improvisational techniques, and administration.

5130 Teaching Music Theory in the High School (3)
Prerequisite: Graduate standing in music. A study of the

course content and pedagogical techniques for high school music theory courses.

5510 Graduate Instrumental Methods (3)
Prerequisite: Graduate standing in music. Development of objectives for instrumental programs and methods of achieving those objectives. Comprehensive musicianship through instrumental performance, analysis of instrumental literature, instrumental philosophies and methodologies, rehearsal organization, and recent research in instrumental music education will be discussed.

5520 Instrumental Music Administration (3)
Prerequisite: Graduate standing in music. Study of the organizational problems of the instrumental program; library management; budgeting; awards and incentive systems; selection, care, and handling of uniforms and equipment; instrumental balance; seating plans; and operation of festivals and contests.

5610 Graduate Choral Methods (3)
Prerequisite: Graduate standing in music. Development of objectives for choral programs and methods of achieving those objectives. Comprehensive musicianship through choral performance, analysis of choral literature, the changing voice, choral philosophies and methodologies, rehearsal organization, and recent research in choral music education will be discussed.

5620 Guitar in the Classroom (3)
Prerequisite: Graduate standing in music. A study of guitar instruction in grades 5-12 with a focus on curricular sequence that includes chords, strums and picking patterns essential for song accompaniment skill development. Current materials, suitable for upper elementary and secondary students will be explored.

5650 Music Theatre in the School (3)
Prerequisite: Graduate standing in music. Techniques appropriate for school musical productions. Aspects of production and planning, including makeup, staging, lighting, and costuming.

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.

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.

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.

5750 Microcomputer Applications in Music Education (3)
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.

5760 Microcomputer-Assisted Instruction Curriculum Development in Music (3)
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.

5770 Graduate Microcomputer Applications in Music (3)
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.

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.

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.

5820 School Music Administration and Supervision (3)
Prerequisite: Graduate standing in music. Theory and practice of administration and supervision of school music programs.

5830 Contemporary Music Education (3)
Prerequisite: Graduate standing in music. A study of recent trends and issues in music education.

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.

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.

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.

5950 Special Problems in Music Education (1-3)
Prerequisite: Graduate standing in music. Selected problems to meet the needs of the individual student.

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

1001 Introduction to Music (3) [V,H]
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.

1010 History of Western Music I (3)
Prerequisite: Music 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.

1020 History of Western Music II (3)
Prerequisite: Music 1301/1302 or consent of department. A continuation of Music 1010.

1060 Introduction to African-American Music (3) [H]
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.

1070 Introduction to Jazz (3) [H]
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.

1080 Introduction to Irish Traditional Music (3) [V,H]
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.

1090 Non-Western Music I (3) [V,H]
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.

1100 Non-Western Music II (3) [V,H]
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.

1110 Introduction to Irish Traditional Music in North America (3) [V,H]
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.

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.

4210 Music of the Middle Ages (3)
Prerequisite: Music 1010 or consent of department. Study of music and musical thought from the beginning of Christianity to 1450. Gregorian chant, polyphonic music, the Ars Antiqua, and the Ars Nova.

4220 Music of the Renaissance (3)
Prerequisite: Music 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.

4230 Music of the Baroque (3)
Prerequisite: Music 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.

4240 Music of the Classic Period (3)
Prerequisite: Music 1020 or consent of department. A study of the growth of classical style; galant and expressive styles; Mozart, Haydn, and Beethoven.

4250 Music of the Romantic Period (3)
Prerequisite: Music 1020 or consent of department. Composers, forms, and styles in nineteenth-century music. The literary and social background of musical romanticism.

4260 Music of the Twentieth Century (3)
Prerequisite: Music 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.

4270 A History of Byzantine Music and Hymnography (3)
Prerequisite: Music 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.

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

1190 Fundamentals of Music (3) [V]
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.

1301Theory of Music I (3) [V,H]
Prerequisite: Consent of the department. The basic materials of music and their use in analyzing and writing music. Concurrent registration in Music 1302 is required for music majors and minors.

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.

1311 Theory of Music II (3) [V,H]
Prerequisites: Music 1301 and Music 1302 or consent of department. The study of seventh chords, secondary dominants, and modulation; composition in small forms. Concurrent registration in Music 1312 is required for music majors and minors.

1312 Aural Training II (1)
Prerequisites: Music 1301 and Music 1302 or consent of department. The systematic instruction in ear training and sight singing begun in Music 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.

2301 Theory of Music III (3) [V,H]
Prerequisites: Music 1311and Music 1312 or consent of department. Study of chromaticism in eighteenth and nineteenth centuries; composition in simple part forms. Concurrent registration in Music 2302 is required for music majors and minors.

2302 Aural Training III (1)
Prerequisites: Music 1311 and Music 1312 or consent of department. Systematic instruction in ear training and sight singing of Music 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.

2311 Theory of Music IV (3) [V,H]
Prerequisites: Music 2301 and 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 2312 is required for all music majors and minors.

2312 Aural Training IV (1)
Prerequisites: Music 2301 and 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.

3110 Analysis of 20th Century Technique (2)
Prerequisite: Music 2311/2312 or consent of department. Study of compositional devices in tonal and atonal music of the twentieth century.

3120 Tonal Counterpoint (2)
Prerequisite: Music 2311/2312 or consent of department. Study of tonal counterpoint with emphasis on the eighteenth-century style. Composition in two and three parts.

3300 Seminar in Composition (2)
Prerequisite: Music 3110 or consent of instructor. The study of composition in theory and practice.

3410 Orchestration (3)
Prerequisite: Music 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.

3420 Choral Arranging (2)
Prerequisite: Music 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.

3430 Instrumentation and Scoring Technique (2)
Prerequisite: Music 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.

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.

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.

5110 Scoring and Arranging (3)
Prerequisite: Graduate standing in music. Experience in scoring and arranging music for a variety of ensembles.

Pedagogy

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.

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.

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.

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.

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.

1560 Piano Pedagogy (2)
Prerequisite: Successful completion of 2 semesters of Applied Music 1450, Piano or consent of instructor. A study of methods, repertoire, and technical problems pertaining to private studio teaching for all levels of performance ability.

2210 Pedagogy of Jazz Improvisation (1)
Prerequisites: Music 2311/2312 and consent of instructor. Study of the techniques, systems, and instructional materials used in teaching jazz improvisation.

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.

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

1140 Piano Proficiency (1)
Prerequisite: Consent of department. Group instruction for music majors who do not meet beginning keyboard requirements.

1150 Piano Proficiency (1)
Prerequisite: Consent of department. Group instruction for music majors who do not meet beginning keyboard requirements.

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.

1250 Singer's Diction: English, Italian, and German (1)
Prerequisite: Music 1440-1459 or Music 1240. A study of English, Italian, and German pronunciation using the International Phonetic Alphabet.

1260 Singer's Diction: Latin, French, and Spanish (1)
Prerequisite: Music 1440-1459 or Music 1240. Study of Latin, French, and Spanish pronunciation using the International Phonetic Alphabet.

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.

1540 Accompanying II (1)
Prerequisite: Consent of department. Continuation of Music 1530.

1550 Accompanying III (1)
Prerequisite: Consent of department. Continuation of Music 1540.

2160, 2180, 3190, 3290 Intermediate Piano Proficiency (1)
Prerequisite: Music 1150 or permission of department. Continuation of piano proficiency study.

2170 Jazz Keyboard Harmony (1)
Prerequisite: Applied Music 2160 or consent of department. Group keyboard instruction in the application of chordal structures and harmonic functions commonly used in mainstream jazz performance.

2510 Conducting I (2)
Prerequisite: Music 2301/2302. Concurrent registration in Music 2610 required for bachelor of music in music education program. Techniques and problems in conducting.

2610 Elementary School Instrumental Literature Laboratory (1)
Prerequisite: Music 2301 & 2302. Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

2611 Elementary School Choral Literature Laboratory (1)
Prerequisites: Music 2301 & 2302. Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

3521 Conducting II Instrumental (2)
Prerequisite: Music 2510. Concurrent registration in Music 3620 required for bachelor of music in music education program. Advanced study of instrumental conducting and rehearsal techniques, score reading, and interpretation.

3522 Conducting II Choral (2)
Prerequisite: Music 2510. Concurrent registration in Music 3620 required for bachelor of music in music education program. Advanced study of choral conducting and rehearsal techniques, score reading, and interpretation.

3620 Junior-Senior High School Instrumental Literature Laboratory (1)
Prerequisite: Music 2311 & 2312. Analysis and evaluation of selected instructional and concert materials for junior and senior high school performance groups.

3621 Junior-Senior High School Choral Literature Laboratory (1)
Prerequisites: Music 2311 & 2312.
Analysis and evaluation of selected instructional and concert materials for junior and senior high school performance groups.

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.

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.

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.

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.

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.

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.

5035 Instrumental Literature (3)
Prerequisites: Graduate standing in Music. Study of literature appropriate for soloists and ensembles for elementary to senior high school band, orchestra and jazz ensemble. Criteria for evaluating the literature will be developed and related technical problems will be studied.

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.

5210 Graduate Conducting (3)
Prerequisite: Graduate standing in music. Conducting techniques, score reading, and interpretation of choral, orchestral, and band literature.

5480 Graduate Applied Conducting (1-2)
Prerequisite: Music 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.
Additional information may be obtained by contacting us:
Department of Music: 314-516-6980.
http://www.umsl;.edu/~music/

Department of Theatre, Dance & Media Studies

Faculty

James Fay, Associate Professor; Chairperson
M.F.A., Tulane University
Thomas McPhail, Professor (Media Studies)
Ph.D., Purdue University
Michael Murray, Curators' Distinguished Teaching Professor (Media Studies)
Ph.D., University of Missouri-Columbia
Adenlyi Coker, E. Desmond Lee Professor in African Studies; Fellow, Center for International Studies
Ph.D., Temple University
Rita Csapo-Sweet, Associate Professor (Media Studies)
Ed.D., Harvard University
Carlene (Niki) Juncker, Assistant Professor (Theatre and Dance)
M.F.A., Lindenwood University
Eric Love, Assistant Professor (Theatre and Dance)
Ph.D., University of Missouri-Columbia
Alicia Okouchi-Guy, Assistant Professor (Theatre and Dance
M.F.A., University of California-Irvine
Timothy Poertner, Assistant Professor, Production Manager, Theatre and Dance
M.F.A., University of Texas-Austin

The Theatre, Dance, and Media Studies department program is a newly-reactivated program at the University of Missouri-St. Louis. The curriculum is a component of the Department of Communication. Work is currently underway on a new theatre curriculum. The degree program in Theatre & Dance has been approved by the Board of Curators. It will be offered pending approval of the CBHE.

The University of Missouri-St. Louis has presented student theatrical productions in each of the past five years. Two productions are planned for 2003-2004. The University Players, a recognized student organization, is open to any University of Missouri-St. Louis student.

For further information concerning the theatre productions, curriculum, or other matters, contact the College of Fine Arts and Communication 516-5501.

Undergraduate Studies

General Education Requirements

- All Theatre and Dance majors must satisfy the University and College of Fine Arts and Communication's 42-hour general education core requirements, which include English 1100 and the Math proficiency requirement.
- Junior-level writing class is required
- The Cultural Diversity requirements may be satisfied by General Education courses or lower- or upper-level courses in various departments.
- State Government/History graduation requirements may be satisfied by General Education courses or by other lower-or upper-level courses in various departments.
- 13 hours of a foreign language

Degree Requirements

Bachelor of Arts in Theatre and Dance
(Pending approval of The Coordinating Board of Higher Education)

Theatre and Dance majors must complete a minimum of 36, but not more than 52 hours in Theatre and Dance courses. A core of 26 hours is required for all majors and 10-26 additional hours in Theatre and Dance are required. At least 24 hours in the major must be taken at UM-St louis and must include 6 hours at the 2000 or higher level and 9 hours at the 3000 or higher level. All courses required for the major must be completed with a minimum grade of C- to be accepted, and the overall total grade point average must be at least 2.0 to graduate. To be eligible to participate in Internship classes, each student must have an overall grade point average of 3.0

In addition to the major's required core and elective Theatre & Dance courses, students will choose elective courses to bring their total credit hours to 120. Practicum courses may be repeated for credit; an overall limit of 20 hours in Practicum courses will be accepted towards the 120 hour degree.

Required Core Courses for all Theatre and Dance Majors
3 hours 1210 Fundamentals of Acting[1]
3 hours 1900 Introduction to Theatre Technology
3 hours 1910 Introduction to Theatrical Design
3 hours 1023 Fundamentals of Dance
3 hours 2810 History of World Theatre & Drama I; **or** 2840, History of Dance I
3 hours 2820 History of World Theatre & Drama II; **or** 2841, History of Dance II
2 hours chosen from these Production related courses:
1060 Theatre Workshop
2260 Introduction to Costume Design & Production
3060 Advanced Theatre Workshop
3254 Costume Production & Construction Techniques
6 hours chosen from these Practicum courses (3 hours of which need to be above the 3000 level)
2195 Practicum in Performance Studies
2196 Theatre Practicum: Scenery/Lighting/Sound in Theatre Production
2197 Practicum in Costume
2198 Practicum in Dance
3195 Advanced Practicum in Performance Studies
3196 Advanced Theatre Practicum: Scenery/Lighting/Sound in Theatre Production
3197 Advanced Practicum in Costume
3198 Advanced Practicum in Dance

26 hours total – Additional hours in Theatre and Dance electives are to be selected based on individual students' areas of interest. The core courses of 26 hours plus the Theatre and Dance electives must equal a minimum of 36 hours, but not more than 52 hours. For Theatre and Dance majors.

Minor in Theatre and Dance
Students with other majors may choose to minor in Theatre and Dance to complement their academic and career goals. The minor requires 18 hours of Theatre and Dance courses, nine of which must be taken at UM-St. Louis. A minimum GPA of 2.0 is required in the minor.

A. Minor in Theatre and Dance Consists of the following:
a. 3 hours chosen from these Performance related courses:
1600 Voice and Diction/Vocal Performance
2105 Script analysis
2211 Acting Styles
2230 Aesthetics of Theatrical styles
2240 Movement for Actors, Dancers & Performers
2300 Stage Management
3210 Ensemble Acting
3305 Writing for Performance
4220 Directing for the Theatre
4230 Theatre Management

b. 3 hours chosen from these Design/Technology related courses:
2250 Stagecraft
2260 Introduction to Theatrical Costume Design & Production
2280 Lighting and Sound Technology
3252 Costume Design
3254 Costume Production & Construction Techniques
3260 Scenic Design
3261 Lighting Design

c. 2-3 hours chosen from these Dance related courses:
1006 Beginning Ballet Technique
1007 Beginning Jazz Dance Technique
1008 Beginning Modern Dance Technique
2006 Intermediate Ballet Technique*
2007 Intermediate Jazz Dance Technique*
2008 Intermediate Modern Dance Technique*
3006 Advanced Ballet Technique*
3007 Advanced Jazz Dance Technique*
3008 Advanced Modern Dance Technique*
3009 Dance Choreography for the Stage, Television, and Video
3105 Advanced Dance Repertory*

d. 2 hours chosen from these Production related courses:
1060 Theatre Workshop
2260 Introduction to Costume Design & Production
3060 Advanced theatre Workshop
3254 Costume Production & Construction Techniques

e. 1 hour chosen from these Practicum courses:
2195 Practicum in Performance Studies
2196 Theatre Practicum: Scenery/Lighting/Sound in Theatre Production
2197 Practicum in Costume
2198 Practicum in Dance
3195 Advanced Practicum in Performance Studies
3196 Advanced Theatre Practicum: Scenery/Lighting/Sound in Theatre Production
3197 Advanced Practicum in Costume
3198 Advanced Practicum in Dance

f. 6-7 hours chosen from any additional Theatre and Dance courses
*Enrollment in Intermediate-and Advanced-level Dance Technique courses is by audition only. Beginning-level courses may be repeated for credit until sufficient proficiency has been achieved to advance to higher-level courses

Theatre, Dance & Media Studies

Prerequisites may be waived by consent of the department.

Course Descriptions: Theatre and Dance

1005 Dance Conditioning (2)
This course provides basic methods to increase personal strength, flexibility, and endurance. Course of study will include stretching, strengthening and relaxation techniques and elements of Therabands, Pilates and Yoga. Prior dance experience is not required. Course may be repeated for credit up to 10 hours.

1006 Beginning Ballet Techniques (2)
An introduction to the art of ballet emphasizing basic movement, technique and terminology. Course study will include basic barre exercises, center work, and across the floor progressions for proper alignment, strength, flexibility, and coordination. Prior dance experience is not required. Dance attire and ballet slippers will be required. Course may be repeated for up to 10 credit hours.

1007 Beginning Jazz Dance Technique (2)
An introduction to the art of jazz dance emphasizing basic principles of traditional and contemporary forms of jazz dance movement, technique, terminology, and style. Course will focus on increasing strength, flexibility, coordination, and creative expression. Prior dance experience is not required. Dance attire and jazz shoes will be required. Course may be repeated for up to 10 credit hours.

1008 Beginning Modern Dance Technique (2)
An introduction to the art of modern dance movement, technique, and terminology. Course of study will introduce the elements of time, space, and energy through basic structured exercises and improvisation. Emphasis will be focused on alignment, strength, flexibility,

coordination, and creative expression. Prior dance experience is not required. Dance attire is required. Shoes are not required. Course may be repeated for up to 10 credit hours.

1023 Fundamentals of Dance (3)
This course provides an introductory exploration of movement through various styles of dance, emphasizing movement vocabulary, stretching, strengthening, body alignment, and creative expression. Prior dance experience is not required. Dance attire and shoes will be required.

1060 Theatre Workshop (1-2)
Course provides practical application of technical theatre practices through 45 hours of lab work within the areas of scenery, lighting, properties, and sound in conjunction with departmental productions. Personal safety equipment and basic tools will be required. Course may be repeated for up to 8 credit hours.

1100 Introduction to Dance (3) (C), (H)
A non-movement class that introduces the general student to the art, appreciation, and aesthetics of dance. Course will include a survey of prominent dancers, choreographers, performance artists, and companies; and analysis of video and live performances.

1105 Dance Repertory (1-3)
Prerequisites: Consent of instructor. Students will learn and rehearse original choreography created by faculty and guest artists. At the end of the semester, students will perform original works at a dance concert. Dance attire and appropriate dance shoes are required. Course may be repeated for credit up to 6 hours.

1106 Dance Ensemble I (1-3)
Prerequisites: Consent of instructor or Audition
Students will create and produce dance lectures and demonstrations. The Dance Ensemble will also travel and perform. Dance attire and appropriate dance shoes are required. Course may be repeated for up to 6 credit hours.

1210 Fundamentals of Acting (3) (H)
Course develops personal communication and presentational skills through vocal, physical, and emotional exercises designed for the beginning actor. Course emphasizes relaxation, concentration, improvisation, script analysis, characterization, and scene work exercises to develop elementary performance skills.

1230 Production Aesthetics (3)
An analysis of the visual components of dramatic presentation, including an introduction to theatrical styles and forms, technical design elements, and presentational techniques. A broad survey of theatre production.

1600 Voice and Diction/Vocal Performance (3)
Course promotes development of clear distinct enunciation and correct pronunciation for mass media communication, public address, theatre, and oral interpretation. Course includes development of oral presentational and self promotional skills for voice acting/voice-over in contemporary theatre and media.

1800 Introduction to Theatre (3) (H)
A study of Theatre as an art form, emphasizing the audience's appreciation of the art of the playwright, actor, director, designers, and technicians. Major periods, genres, dramatic forms from classical to modern to the avant garde as well as performance art will be will be covered. Students will attend performances and learn about how theatre functions as an art and an industry in today's world. Attendance at several live theatrical (theatre, play, musical, opera and dance) performances will be required.

1850 Introduction to Non-Western Theatre (3) (C), (H), (CD)
Survey of theatre forms of the non-European world in which primary attention is concentrated on analysis of traditional dance drama and puppet theatres of East Asia, South Asia, the Middle East and Africa. Similar forms of European theatre will be included for comparative purposes. Focus on the development of world theatre from a visual point of view, from earliest storytelling rituals through international stage development to contemporary theatrical forms, with a view to understanding the global perspective. Course will survey visual media and writings on dance and theatre traditions found around the non-Western World.

1900 Introduction to Theatre Technology (3)
Introductory course covering the basic theories and techniques of Theatre Technology including stage equipment and safety, scenery, lighting, costuming, properties, sound and box office. Course includes practical application through a minimum of 25 hours of lab work in conjunction with a departmental production.

1910 Introduction to Theatrical Design (3)
Prerequisites: Th & D 1900 or Consent of instructor.
Introductory course covering the elements and principles of design in the areas of scenery, lighting, and costumes. Course will include various creative projects in two and three dimensions. Some graphic materials will be required.

2006 Intermediate Ballet Technique (2)
Prerequisites: 2.0 Credit Hours of Th & D 1006 or Consent of instructor. Ballet movement, technique, vocabulary, and aesthetics with particular focus on precision and performance. Course of study will be a continuation of Beginning Ballet Technique barre exercises, center work, and across the floor progressions.

Dance attire and Ballet slippers will be required. Course may be repeated for up to 10 credit hours.

2007 Intermediate Jazz Dance Technique (2)
Prerequisites: 2.0 Credit Hours of Th & D 1007 or Consent of instructor. Jazz dance movement, technique, vocabulary, and aesthetics with particular focus on personal movement style and expression. Course will also study unique dance styles and artists that have influenced the stage video, film, and commercial media industry. Dance attire and jazz shoes will be required. Course may be repeated for up to 10 credit hours.

2008 Intermediate Modern Dance Technique (2)
Prerequisites: 2.0 credit hours of Th & D 1008 or Consent of instructor. Modern dance movement, technique, vocabulary, and aesthetics. Course of study will be continuation of Beginning Modern Dance Technique through incorporation of more complex movement and patterns. Emphasis on accuracy and performance will be explored. Dance attire is required. Dance shoes are not required. Course may be repeated for up to 10 credit hours.

2105 Script Analysis (3) (C), (H)
This course introduces students to elementary script analysis. Students learn basic structural and interpretative strategies for analyzing play scripts and other forms of performance texts.

2195 Practicum in Performance Studies (1-3)
Prerequisites: Consent of instructor
Provides practical experience in acting, directing, or dramaturgy through rehearsal and performance in conjunction with department productions, or other approved independent study projects. Laboratory time will be scheduled and may include evening and weekend rehearsals and performances. Course may be repeated for up to 8 credit hours.

2196 Practicum in Scenery/Lighting/Sound in Theatre Production (1-3)
Course provides practical experience in scenery, lighting, sound, and properties implementation and/or running crew work in conjunction with departmental productions, or other approved independent study projects. Running crew work will involve evening and weekend assigned times. Additional daytime hours will vary according to assignment. Credit hours are determined based on the scope of the project. Course may be repeated for up to 6 credit hours.

2197 Practicum in Costume (1-3)
Practicum in costume construction, cutting, draping, millinery, fabric dyeing/painting, distressing, crafts including wardrobe and makeup running crews, in conjunction with the theatre and dance department productions, or other approved independent study projects. In addition to daytime lab hours, occasional weekend and/or evening laboratory time will be required. Appropriate clothing and personal safety equipment will be required. Personal sewing equipment will be required. Course may be repeated for up to 8 credit hours.

2198 Practicum in Dance (1-3)
Prerequisites: Consent of Instructor.
Course provides practical experience in dance, stage movement, stage combat, choreography and/or running crew work in conjunction with departmental productions, or other approved independent study projects. Running crew work will involve evening and weekend assigned times. Additional daytime hours will vary according to assignment. Credit hours are determined based on the scope of the project. Course may be repeated for up to 6 credit hours.

2211 Acting Styles (3) (C), (H)
Prerequisites: Th & D 1210 or Consent of instructor. This course explores diverse acting styles; including historical and cultural distinctions in manners, movement, and vocal practice. Course includes additional emphases on non-realistic acting, non-Western theatrical performance, plus style distinctions between stage acting, vocal acting, television acting, and acting for cinema.

2230 Aesthetics of Theatrical Styles (3) (C), (H)
Course investigates and analyzes theatre as an art form focused on manipulation of spatial aesthetics. Course includes emphasis on the development of dramatic and artistic styles and their effect on the visual presentation of ideas in theatre.

2240 Movement for Actors, Dancers & Performers (2)
Prerequisites: Th & D 1023. A study of movement techniques and theories for actors, dancers, performance artists and musical theatre performers. Training in movement techniques for the stage, theatrical combat, non-verbal theatre including mime, impersonation and dramatic dance forms. This course will look at the body as an expressive tool of the performer and as a narrative to the playwright/director.

2250 Stagecraft (3)
Prerequisites: Th & D 1900 or Consent of Instructor. A survey of the theories, terminology, and practices of methods and equipment of scenic and properties construction, painting, and rigging. Course includes practical application through 45 hours of lab work in conjunction with departmental productions. Personal safety equipment will be required.

2260 Introduction to Theatrical Costume Design & Production (3)
Covers the theory and practice of costume design and construction. A survey of contemporary and historical concepts and practices in costuming for the theatre. The process of costume design: script analysis, research, and visualization of ideas.

2280 Lighting & Sound Technology (3)
Prerequisite: Th & D 1900 or Consent of instructor. A survey of the theories, terminology, and practices of methods, equipment, and control systems of lighting and sound technology for the stage. Course includes practical application through 45 hours of lab work in conjunction with departmental productions. Basic personal tools will be required.

2290 Drafting for the Theatre (3)
Prerequisites: Th & D 1900 or Consent of instructor. Survey course covering the fundamental techniques of two dimensional drafting. Drafting equipment will be required.

2300 Stage Management (3)
Prerequisites: Consent of instructor. Course develops fundamental stage management skills needed to supervise all operative aspects of play production from auditions through performance. These skills include: interpersonal and leadership skills, conflict resolution techniques, venue and staff management/scheduling, and technical script analysis. Course includes production experience.

2810 History of World Theatre and Drama Through the Restoration (3) (C) (H)
Prerequisite: Th & D 1800 or Consent of instructor. Survey of the history of influence of different cultures, traditions, and technologies on development of theatre as a social institution. History of Theatre and drama from ancient cultures to the Restoration period. Ritual and religious drama. Study of the origins of theatre and drama from oral tradition, myth, storytelling, Shamanism and collective ritual, Greek festival drama, and cloister drama of different cultures. Rise of secular drama, the traditions of classical Greek theatre. Study of the Renaissance, and drama in Europe, Asia, Africa and the New World.

2820 History of World Theatre and Drama from 18th Century to Contemporary Times (3) (H) (C)
Prerequisites: Th & D 1800 or Consent of instructor. History of theatre from the 18th century to contemporary times. Survey of history of influence of different cultures, traditions, and technologies on the development of theatre as a social institution. Study of realism and subsequent departures from realism in theatre, drama and performance.

2840 History of Dance to the 19th Century (3) (C) (H)
Prerequisites: Th & D 1800 or Consent of instructor. Survey of western dance from pre-history through the middle ages and renaissance to 19th century. Study of dance in historical and cultural context, its function in society and its relationship to contemporary artistic expression.

2841 History of Dance from the 19th Century to Contemporary Times (3) (H) (C)
Prerequisites: Th & D 1800 or Consent of instructor. Survey of western dance practice from 1850 to the present. History of modern dance: art dance from Isadora Duncan to Martha Graham.

3006 Advanced Ballet Technique (2)
Prerequisites: 4.0 credit hours of Th & D 1006 and/or 2006 or Consent of instructor. Advanced ballet movement, technique, vocabulary, and aesthetics with particular focus on precision and performance. Course of study will include advanced barre exercises, center work, and across the floor progressions. Variations, partnering, and pointe work may be incorporated at the discretion of the instructor. Dance attire and ballet slippers will be required. Course may be repeated for up to 6 credit hours.

3007 Advanced Jazz Dance Technique (2)
Prerequisites: 4.0 credit hours of Th & D 1007 and/or 2007 or Consent of instructor. Advanced jazz dance movement, technique, vocabulary, and aesthetics with particular focus on personal movement style and performance. Study of unique dance styles and artists that have influenced the stage, video, film, and commercial and media industry. Dance attire and jazz shoes will be required. Course may be repeated for up to 6 credit hours.

3008 Advanced Modern Dance Technique (2)
Prerequisites: 4.0 credit hours of Th & D 1008 and/or 2008 or Consent of instructor. Advanced level of modern dance movement, technique, vocabulary, and aesthetics. Incorporation of more complex movement and patterns. Emphasis on accuracy and performance will be explored. Dance attire is required. Dance shoes are not required. Course may be repeated for up to 6 credit hours.

3009 Dance Choreography for the Stage, Television, and Film (3)
Prerequisites: 4 Credit hours of any level and combination of Th & D 1006, 1007, 1008, 2006, 2007, 2008, 3006, 3007 & 3008. Course will focus on directed movement studies and composition techniques for the stage, television, and film. Personal creativity and original movement inventions will be explored, as well as the creation, development, and transformation of original movement studies into completed works. Dance attire and dance shoes are required. Course may be repeated for up to 6 credit hours.

3060 Advanced Theatre Workshop (1-2)
Prerequisites: Th & D 1060 or Consent of instructor. Practical application of technical theatre practices through 45 hours of lab work within the areas of scenery, lighting, properties, and sound in conjunction with departmental productions. Personal safety equipment and basic tools will be required. Course may be repeated for up to 8 credit hours.

3100 Tap Dance Technique (2)
Prerequisites: 8 Credit hours of any combination of Th & D 1005, 1006, 1007, 1008, 1023, 2006, 2007, 2008, 3006, 3007, and/or 3008. An introduction to the art of tap dance movement, technique, and vocabulary. Dance attire and tap shoes are required.

3105 Advanced Dance Repertory (1-3)
Prerequisites: Consent of instructor or Audition. Dancers are selected through audition or consent of instructor to participate in the dance repertory. Students will learn and rehearse original choreography created by faculty and guest artists. At the end of the semester, students will perform original works in a dance concert. Dance attire and appropriate dance shoes are required. Course may be repeated for credit up to 12 hours.

3106 Dance Ensemble (1-3)
Prerequisites: Consent of instructor or Audition. Students create and produce dance lectures and demonstrations. Dance attire and appropriate dance shoes are required. Course may be repeated.

3195 Advanced Practicum in Performance Studies (1-3)
Prerequisites: Consent of instructor. Course provides advanced practical experience in acting, directing, or dramaturgy through rehearsal and performance in conjunction with department productions, or other approved independent study projects. Laboratory time will be scheduled and may include evening and weekend rehearsals and performances. Course may be repeated for up to 8 credit hours.

3196 Advanced Theatre Practicum: Scenery/Lighting/Sound in Theatre Production (1-3)
Prerequisites: Consent of instructor. Course provides advanced practical experience in scenery, lighting, sound, and properties implementation and/or running crew work in conjunction with departmental productions, or other approved independent study projects. Running crew work may involve evening and weekend assigned times. Additional daytime hours will vary according to assignment. Credit hours are determined based on the scope of the project. Course may be repeated for up to 6 credit hours.

3197 Advanced Practicum in Costume (1-3)
Prerequisites: Consent of instructor. This course provides advanced practical experience in costume construction, cutting, draping, millinery, fabric dyeing/painting, distressing, crafts including wardrobe and makeup running crews, in conjunction with the theatre and dance department productions, or other approved independent study projects. In addition to daytime Lab hours, occasional weekend and/or evening laboratory time may be required. Appropriate clothing and personal safety equipment will be required. Personal equipment will be required. Course may be repeated for up to 8 credit hours.

3198 Advanced Practicum in Dance (1-3)
Prerequisites: Consent of instructor. Course provides practical experience in dance, stage movement, stage combat, choreography and/or running crew work in conjunction with departmental productions, or other approved independent study projects. May involve additional hours including evening and weekend assigned times. Credit will be based on the scope of the project. Course may be repeated for up to 6 credit hours.

3210 Ensemble Acting (3)
Prerequisite: Th & D 1210. Laboratory acting course emphasizing group dramatic analysis and collaborative play development and rehearsals culminating in an ensemble performance. Course emphasizes collaboration, cooperation, and team-building skills for performers in the theatre. Special attention is paid to the creation of dramatic works through collaborative means.

3250 Designing for the Theatre (3)
An introduction to the theories and practices of scenic and costume design for the theatre. The course will survey the evolution of theatrical designs through different cultures, dramatic genres, and theatre architecture.

3252 Costume Design (3)
Prerequisites: Th & D 1910, 2260 or Consent of instructor. The study of styles ,visualization of ideas, and techniques of costume design. Discussion of principles of design for costumes, script analysis, collaborative role of the designer in a production. Introduction to costume construction techniques. Studio assignments include drawing, rendering, painting techniques, study of human proportions and exploration of character representation. Course may be repeated for up to 6 credit hours.

3254 Costume Production and Construction Techniques (3)
Prerequisites: Th & D 1900, 2260 or Consent of instructor. Study of theory and application of pattern making, fitting, construction techniques for costumes and undergarments to achieve authentic-appearing costumes using contemporary methods. Provides practical experience in costume construction, as well as wardrobe and makeup. Participation in running crews, in conjunction with the theatre and dance department productions, or other approved independent study projects may be required. Personal equipment will be required. Weekend and evenings may be required. Appropriate clothing and personal safety equipment required. Course may be repeated for up to 8 credit hours.

3257 Makeup for Theatrical Productions (3)
Prerequisites: Th & D 1800, 1910, or Consent of instructor. The art of makeup and its relation to production. Overview of European history and tradition of makeup. Theory, history and the practice of makeup

traditions for theatre, dance and performance will be included.

3260 Scenic Design (3)
Prerequisites: Th & D 1900, 1910, 2250, 2290, or Consent of instructor. Survey of the theories and practices of scenery design for the theatre. This course will emphasize the creative process from conceptual script analysis through final design projects, sketching, drafting, rendering, and model making. Personal graphics and drafting materials will be required.

3261 Lighting Design (3)
Prerequisites: Th & D 1900, 1910, 2280, or Consent of instructor. Survey of the theories and techniques of lighting design for theatre and dance. This course will emphasize the creative process from script and choreographic concepts through final design projects, sketching, drafting, rendering, and related paperwork. Personal graphics and drafting materials will be required.

3262 Theatrical Rendering and Model Making (3)
Prerequisites: Th & D 1900, 1910, or Consent of instructor. Course provides opportunities to further explore techniques in scenery, lighting, and costume design. This course will include 2-D and 3-D projects designed to strengthen skills in drawing, rendering, model making, and publicity materials.

3263 Scene Painting (3)
Prerequisites: Th & D 1900, 1910, or Consent of instructor. Survey of theories, materials and techniques of scene painting for the stage. Course includes 45 lab or studio hours for application and practice of painting projects, and possible evening and/or weekend studio hours.

3305 Writing for Performance (3)
Prerequisites: Consent of instructor. An introduction to writing for performance, including playwriting and dramatic adaptation. Students' particular interests will determine course content; ranging from sketch comedy or adaptation of literature for the stage, to full-length comic or dramatic plays. This course is writing intensive and may require additional laboratory hours.

3362 Storytelling (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.

3394 Practicum in Performing Arts Management: Theatre and Dance (3)
Prerequisites: None. Study of issues related to the management of arts organizations. This course will consider grant writing, creation and administration of community boards, financial issues in arts management, and the mainstream of both high artistic standards and effective organizational processes.

3820 Theatre from the 18th Century to the 1980s (3)
Prerequisite: Theatre 1800 or consent of instructor. History of theatre and drama from the eighteenth century to present.

4100 Teaching for Dance (3)
Prerequisites: 8 credit hours of any level and combination of Th & D 1005, 1006, 1007, 1008, 2006, 2007, 2008, 3006, 3007, and/or 3008. A pedagogy class that focuses on theory and fundamental methods of teaching various genres of dance. Emphasis will be in the development, structure, and application of creating & teaching a variety of dance classes. Course will involve research, analysis, and practical examination of teaching methods appropriate to experience, age, gender, culture, and location. Dance attire and dance shoes are required.

4210 Acting Styles (3)
Prerequisite: Th 3210. Studies in period acting styles, emphasizing cultural distinctions in manners, movement, and vocal practice.

4220 Directing for the Theatre (3)
Prerequisite: Th & D 1210 or consent of instructor. A survey of the theories and practices of theatrical directing, beginning with the theories and techniques of accomplished directors. The stage director's role in performance development will be studied through script analysis, production planning, and the rehearsal process, culminating with a live performance. Final projects are laboratory scenes or a short one-act play.

4221 Advanced Directing for the Stage (3)
Prerequisites: Th & D 4220 or Consent of instructor. A survey of period styles and abstract theories and practices of theatrical directing. Explores the stage director's expanded role in performance development, through script analysis, adaptation, and production planning through the rehearsal process. Final project is a one-act play.

4230 Theatre Management (3)
Prerequisite: Th & D 2230. Comprehensive study and practice of theatre production and management techniques, including season selection, fundraising, budget control, venue analysis and acquisition, box office, facility management, production scheduling, interpersonal skills, conflict resolution, and promotional techniques for theatre.

4261 Advanced Projects in Design and Technology (1-3)
Prerequisites: Junior level with Consent of instructor. Provides opportunities for supervised advanced projects in theatre design or technology in conjunction with departmental productions, or other independent study

projects. Credit assigned based on scope of project. Course may be repeated for up to 6 credit hours.

4262 Advanced Problems in Costume (1-3)
Prerequisites: Th & D 2260 or 3252 or Consent of instructor. Provides opportunities in supervised special projects in costume design and technology in conjunction with actual productions or other advanced independent projects. Includes design research process, script and character analysis, study of historical context and social environment, development of conceptual designs, study of current costume design and wardrobe practices. Personal equipment will be required. Credit based on scope of project. Course may be repeated for up to 6 credit hours.

4390 Theatre Internship (1-3)
Prerequisites: Junior level with Consent of instructor. Provides opportunities for supervised projects in conjunction with off-campus professional theatre and/or dance companies in performance, management, design or technology. Credit based on scope of assignment. Course may be repeated for up to 6 credit hours.

4391 Dance Internship (1-3)
Prerequisites: Junior level with Consent of instructor. Provides credit for approved supervised projects in conjunction with off-campus professional theatre and/or dance companies. Credit based on scope of assignment. Course may be repeated for up to 6 credit hours.

4980 Internship in Theatre (3)
Prerequisites: Senior standing, with at least 12 hours of course work in theatre; 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. Supervised practical work at a theatre off campus in one of the following areas: acting, directing design, stage management. Repeatable, but no more than six hours total credit may be earned in internship courses. Only three hours in internship courses may be counted toward the 36-hour minimum required for the degree.

Course Descriptions: Media Studies

1050 Introduction to Media Studies (3)
Introduction to print and electronic media studies. Emphasis on history, theory, and criticism of mass media as cultural institutions.

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. (Previously Comm 1065)

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. (Previously Comm 1070)

1100 Introduction to Advertising (3)
An introduction to the history, rhetoric, and aesthetics of Advertising. A basic understanding of industry issues and key areas such as account management, research, strategy, creative, media, and production.

1108 Advertising Copywriting (3)
Same as English 2080. To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting. (Previously Comm 1108)

1110 Introduction to Radio and Television Broadcasting (3)
An introduction to broadcasting, including the areas of history, government regulations, station operation, and program development. (Previously Comm 1110)

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, as well as basic straight cut editing. Lab arranged. (Previously Comm 1113)

1114 Radio Production I (3)
Prerequisites: MS 1110. Theory and practice in the creation of radio programs. Laboratory experience included. (Previously Comm 1114)

1118 Radio and Television Announcing (3)
Prerequisites: MS 1113, or MS 1114, or Consent of Instructor. 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. (Previously Comm 1118)

1194 Practicum in Journalism (1-3)
Prerequisites: Consent of Instructor. Open to Theatre, Dance, and Media Studies majors or minors only. Not open to students who have any delayed grades outstanding. Practical work in the journalism program or the student newspaper, supervised by a faculty member. This course may be repeated for up to 6 credit hours.

1195 Practicum in Advertising (1-3)
Prerequisites: MS 1108 or Consent of instructor. Open to Theatre, Dance, and Media Studies majors or minors only. Not open to students who have any delayed grades outstanding. Practical work in the advertising program, the student newspaper, or an on-campus agency, supervised by a faculty member. This course may be repeated for up to 6 credit hours.

1196 Practicum in Radio (1-3)
Prerequisites: MS 1114 or Consent of Instructor. Open to Theatre, Dance, and Media Studies majors or minors only. Not open to students who have any delayed grades outstanding. Practical work at the campus radio station, supervised by a faculty member. This course may be repeated for up to 6 credit hours. (Previously Comm 1196)

1197 Practicum in Television/Film (1-3)
Prerequisites: MS 1113 or Consent of Instructor. Open to Theatre, Dance and Media Studies majors only; not open to students who have 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. This course may be repeated for up to 6 credit hours. (Previously Comm 1197)

1198 Practicum in Media Studies (1-3)
Prerequisites: Consent of Instructor. Open to Theatre, Dance and Media Studies majors or minors only; not open to students who have any delayed grades outstanding. Practical work in media studies, supervised by a faculty member. This course may be repeated for up to 6 credit hours.

2210 Television Production I (3)
Prerequisites: MS 1113 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 non-linear editing techniques. Lab arranged. (Previously Comm 2210)

2212 Broadcast Writing and Reporting (3)
Prerequisites: MS 1110 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. (Previously Comm 2212)

2215 Radio Production II (3)
Prerequisites: MS 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. (Previously Comm 2215)

2216 Radio News (3)
Prerequisites: MS 1114. Theory and laboratory practice in the gathering, writing, and delivery of news through radio. Lab hours to be arranged. (Previously Comm 2216)

2217 Script Writing for Business and Industry (3)
Prerequisites: MS 2210, MS 2212, or Consent of Instructor. 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. (Previously Comm 2217)

2218 Public Policy in Telecommunication (3)
Prerequisites: MS 1065, or 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.(Previously Comm 2218)

3035 Advanced Media Theory (3)
Prerequisites: MS 1135 or Consent of Instructor. This course examines major schools, ownership and theorists in mass media fields. The writings of the Frankfurt School, Marshall McLuhan, Ben Bagdikian, and others will be examined.

3214 News Writing (3)
Prerequisites: Engl 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 inclue coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed.

3310 Television Production II (3)
Prerequisites: MS 2210
Study of advanced theories of television production. Refinement of studio television principles learned in MS 2210. Exploration of complex program formats, and advanced non-linear editing techniques. Lab arranged. (Previously Comm 3310)

3311 Broadcast Management (3)
Prerequisites: MS 1110
Introduction to theories of management, with application to radio and television station operations. Discussion of economic, legal, and ethical problems and issues. (Previously Comm 3311)

3313 Advanced Video Editing (3)
Study of advanced non-linear editing techniques, animation, and advanced graphics development. Exploration of state of the art editing formats. Lab arranged. (Previously Comm 3313)

3316 Television News (3)
Prerequisites: MS 1113 or 2110.
Theory and laboratory practice in the gathering, writing, and delivery of news through television. Lab arranged. (Previously Comm 3316)

3317 Radio and the Recording Industry (3)
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. (Previously Comm 3317)

3330 Research Methods in Media Studies (3)
Prerequisites: MS 1135
Introduction to the fundamental tools of qualitative and quantitative research in Media Studies. Focus of the course is on reading and comprehending media research reports.

3334 Advertising Media Planning (3)
Prerequisites: MS 1050. A hands-on study of how to determine an advertising budget, select media and develop a strategic plan. (Previously Comm 3334)

3350 Mass Media History (3)
Prerequisites: MS 1050 or 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. (Previously Comm 3350)

3354 Comparative Telecommunication Systems (3)
Prerequisites: MS 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. (Previously Comm 3354)

3355 Media Law and Regulation (3)
Prerequisites: MS 1050 or 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. (Previously Comm 3355)

3356 Global Media Systems and Trends (3)
Prerequisites: MS 1050 or 1110
This course will survey major theories, global trends, and key stakeholders in the field of mass and multi-media. Designed to foster substantive comprehension of issues raised by transnational media corporations and their impact on other cultures and languages. Details about the BBC,CNN, MTV, Euro Disney, and the internet will be major components of the class.

3370 Documentary Film (3)
Prerequisites: MS 1070
Consideration of the history, theory, and criticism of nonfiction film. Screening of representative documentary films. (Previously Comm 3370)

3392 Administration of Co-curricular Activities (3)
Prerequisites: Junior Standing or consent of instructor. A survey of skills required to administer the various co-curricular activities associated with teachers in the secondary schools, such s theatre performances and mass media centers.

3394 Internship in Journalism (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in journalism, mass communication; an overall GPA of at least 3.0; consent of instructor; open to Media Studies majors only; not open to students who have any delayed grades. Practical work with an off-campus newspaper, magazine, or other news organization, supervised by a journalism professional in consultation with a faculty member. This course may be repeated for up to 6 credit hours. (Previously Comm 3394)

3395 Internship in Advertising (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in television, film video; an overall GPA of at least 3.0; consent of instructor; open to Media Studies majors only; not open to students who have any delayed grades. Practical work at an off-campus advertising agency, supervised by a professional in consultation with a faculty member. This course may be repeated for up to 6 credit hours.

3396 Internship in Radio (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in radio, broadcasting; an overall GPA of at least 3.0; consent of instructor; open to Media Studies majors only; not open to students who have any delayed grades. Practical work at an off-campus radio station, supervised by a professional in consultation with a faculty member. This course may be repeated for up to 6 credit hours. (Previously Comm 3396)

3397 Internship in Television/Film (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in television, film, video; and overall GPA of at least 3.0; consent of instructor; open to Media Studies majors only; not open to students who have any delayed grades. 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. This course may be repeated for up to 6 credit hours. (Previously Comm 3397)

3398 Internship in Media Studies (3-6)
Prerequisites: Senior standing, with at least 12 hours of course work in television, film, video, journalism, broadcasting, mass communication; an overall GPA of at least 3.0; consent of instructor; open to Media Studies majors only; not open to students who have any delayed grades. Practical work at an off-campus agency, supervised by a professional consultation with a faculty member. This course can be repeated for up to 6 credit hours.

3990 Directed Readings in Media Studies (3)
Prerequisites: Consent of Instructor; not open to students who have any delayed grades. Supervised independent

study involving readings, conferences, papers, in one of the department's disciplines: advertising, radio, television, film, or journalism.

4050 Media Studies and Education Topics (3)
Prerequisites: Senior or Graduate standing. A critical examination of issues concerning media and education. Special topics may include the classification and typology of media studies as it pertains to education, the relationship of differing cultural systems as defined by media and education, or the impact of distance learning via differing media on formal education systems. This course may be repeated for credit with permission of instructor and advisor

4357 Media Ethics (3)
Prerequisites: Same as Phil 4357. Nine hours of philosophy, communication, or media studies, or Consent of Instructor. 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. (Previously Comm 4357)

Graduate School

Gerontology

Faculty

Ann M. Steffen, Director, Associate Professor* of Psychology and Gerontology
Ph.D., Indiana University
Carl J. Bassi, Associate Professor* of Optometry
Ph.D., Vanderbilt University
Margo-Lea Hurwicz, Associate Professor* of Anthropology and Gerontology
Ph.D., University of California-Los Angeles
Chikako Usui, Associate Professor* of Sociology and Gerontology
Ph.D., Stanford University
Kuei-Hsiang (Grace) Hsueh, Assistant Professor* of Nursing
Ph.D., R.N., University of Arizona
Joseph Pickard, Assistant Professor* of Social Work
Ph.D., Washington University

*members of Graduate Faculty

Faculty from 11 departments and schools are involved in the undergraduate and graduate programs in gerontology.

Master of Science in Gerontology

The master of science degree in gerontology program is a multidisciplinary program designed to prepare students for management or direct service positions working with the aged. The program of study includes courses from a variety of departments including anthropology, biology, nursing, physical education, political science, psychology, sociology, social work, English, public policy administration, and optometry. Courses are offered 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 24 hours in gerontology courses, a 3-hour statistics course, and a 3-hour research methods course. The required courses are listed below.

Gerontology Distribution Requirements

A. Public Policy and Aging-3 credits from the following:
Ger (PPA, Pol Sci) 6443. Health Care Policy
Ger (Soc) 5449, Issues in Retirement

B. Health and Physical Aspects of Aging - 3 credits from the following:
Ger 5610 (Soc Wk 5610), Mechanics of Aging I: The Aging Body (1 credit hour)
Ger 5611 (Soc Wk 5611), Mechanics of Aging II: The Aging Brain (1 credit hour)
Ger 5612 (Soc Wk 5612), Mechanics of Aging III: Diseases of Aging (1 credit hour)
Ger (Nur) 6401, (5000) Health and Wellness in the Aging
Ger 6441, Aging and Health Behavior
Ger 6458 (Opt 8650), Geriatric Optometry

C. Psychosocial Aspects of Aging-3 credits from the following:
Ger (Psych) 4373, Psychology of Aging
Ger (Psych) 4376, Mental Health and Aging
Ger (Soc) 4361, Sociology of Aging
Ger (Anthro) 5440, Cultural Aspects of Aging
Ger (Psych) 4380, Psychology of Death, Dying and End of Life Concerns

D. Practica in Gerontology, 6 credits from the following:
Ger 6495, Practicum in Gerontology
Ger 6496, Advanced Practicum in Gerontology

E. Gerontology Electives - 9 credits

F. Graduate-level statistics course - 3 credits and graduate level research methods course – 3 credits.
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:

- Baccalaureate degree.
- 2.75 grade point average (students with exceptions should contact the director of the gerontology program).
- Official transcripts of all previous undergraduate/ graduate work.
- Two letters of recommendation.

Distribution Requirements

A. Public Policy-3 credits from the following:

Ger (PPA, Pol Sci) 6443, Health Care Policy
Ger (Soc) 6449, 5449, Issues in Retirement

B. Health and Physical Aspects of Aging-3 credits selected from the following:
Ger (Nur) 6401,5000, Health and Wellness in the Elderly
Ger 6441, Aging and Health Behavior
Ger 5610, Soc Wk 5610, Mechanics of Aging II: The Aging Brain (1 credit hour)
Ger 5611, Soc Wk 5611, Mechanics of Aging II: The Aging Brain (1 credit hour)
Ger 5612, Soc Wk 5612, Mechanics of Aging III: Diseases of Aging (1 credit hour)
Ger 6458, Opt 8650, Geriatric Optometry

C. **Psychosocial Aspects of Aging** - 3 credits selected from the following:
Ger (Psych) 4373, Psychology of Aging
Ger (Psych) 4376, Mental Health and Aging
Ger (Soc) 4361, Sociology of Aging
Ger (Psych) 4380, Psychology of Death, Dying and End of Life Concerns

D. Ger 6495, Practicum in Gerontology -3 credits
E. Electives in Gerontology - 6 credits

Graduate Certificate in Long-Term Care Administration (18 credit hours)

The graduate certificate in long-term care administration is designed for individuals who either work in or wish to consider entering the field of long-term care administration. This field (home, community, and institutionally-based) is the fastest growing segment of the health care industry, and there is a critical need for professionally trained personnel with the knowledge and skills to address the complex issues in gerontology. This program can be applied towards meeting nursing home administration licensure requirements. (Missouri contact hour requirements vary with education and long-term care experience. Please check with the Missouri Board of Nursing Home Administration, Jefferson City, MO (573) 751-3511 for a copy of licensure eligibility requirements.)

The graduate certificate can be earned by itself or in conjunction with the pursuit of the Master of Science in Gerontology, the Master's in Social Work, or a graduate degree in another field.

The graduate certificate in long-term care administration requires the completion of 18 graduate credit hours which will apply toward the Master of Science in Gerontology for students who elect to continue their graduate studies in gerontology at UM-St. Louis.

A. Six of these 18 hours are gerontology courses:

- GER 6441, Aging and Health Behavior (3 hours) **or** GER 6443 Health Care Policy (3 hours) (same as Soc. WK. 6443, PPA 6430, or Pol. Sci. 6443)

- GER 6498, Advanced Seminar in Gerontology: Long-term Care Administration (3 hours)

B. Nine of these hours are in management. Students much choose the selection of courses in either Business Administration (1) or Nonprofit Management (2).

1. 9 hours of coursework in Business Administration consisting of:

    1. Mgmt. 5600, Organizational Behavior and Administrative Process (3 hours) (same as PPA 6600)
    2. Acctg. 5400, Financial Accounting: Theory and Practice (3 hours)
    3. Mgmt. 5621, Managing Human Resources (3 hours)

OR

2. 9 hours of coursework in Nonprofit Management, consisting of:

    A. PPA 4940, Leadership and Management in NonProfit Organizations (3 hours)
    B. PPA 4960, American Philanthropy and NonprofitResource Development (3 hours)
    C. PPA 4911 Management Issues in Nonprofit Orgs.:Staff Management Issues (1 hour)
    D. PPA 4912, Management Issues in Nonprofit Orgs.:Legal Issues in Governing and Managing Nonprofit Orgs. (1 hour)
    E. PPA 4913, Management Issues in Nonprofit Orgs.:Financial Issues (1 hour)

Three hours of internship (Practicum in Gerontology, GER 6495), are also required. Graduate students who already have professional field experience equivalent to the internship may request an exemption. Any request for an exemption from the internship requirement must be approved by the gerontology 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 elective coursework from the gerontology program offerings.

Requirements of admission to the graduate certificate program are the same as those required for admission to the Graduate School: an undergraduate degree, 2.75 or better GPA , and three letters of recommendation.

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, 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) 1115, Images of Age in Film
Ger (Eng) 1116, Images of Age in Literature
Ger (Philos) 2256, Bioethics

Social Sciences

Ger (Psych) 2272, Developmental Psychology: Adulthood and Aging
Ger (Psych) 4380, The Psychology of Death, Dying, and End-of-Life Concerns
Ger (Psych) 4373, The Psychology of Aging
Ger (Psych/Social Work) 4376, Mental Health and Aging
Ger (Soc) 4361, Social Gerontology
Ger (ID) 2170, Aging in America Concepts and Controversies
Ger (ID) 1220, Special Topics in Gerontology
Ger (Anthro) 3215, Growing Old in Other Cultures

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

1115 Images of the Elderly in Film (3)
Same as Eng 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.

1116 Images of Age in Literature (3)
Same as Eng 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.

1220 Special Topics in Gerontology (1-3)
Same as ID 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.

2170 Aging in America: Concepts and Controversies (3)
Same as Soc 2170, SW 2170, ID 2170.
This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion , and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

2256 Bioethics (3)
Same as Phil 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.

2272 Developmental Psychology: Adulthood and Aging (3)
Same as Psy 2272. Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

3215 Growing Old in Other Cultures (3)
Same as Anth 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.

4361 Social Gerontology (3)
Prerequisite: Soc 1010 and junior standing or consent of instructor. Same as Soc 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.

4373 Psychology of Aging (3)
Prerequisite: Nine hours of Psychology or consent of instructor. Same as Psy 4373.This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.

4376 Mental Health and Aging (3)
Prerequisites: 9 hours of psychology, graduate standing or consent of instructor. (Same as Psy 4376 and SW 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.

4380 Psychology of Death, Dying, and End-of-Life Concerns (3)
Same as Psy 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.

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.

5440 Cultural Aspects of Aging (3)
Same as Anth 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.

5610 Mechanisms of Aging I: The Aging Body (1)
Prerequisites: Graduate standing and Bio 1102 or equivalent. (Same as SW 5610 and Psy 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 and how these changes affect behavior.

5611 Mechanisms of Aging II: The Aging Brain (1)
Prerequisites: Ger 5610 or SW 5610 or Psy 5610 or equivalent or consent of instructor. (Same as SW 5611 and Psy 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 and how these systems impact behavior.

5612 Mechanisms of Aging III: Diseases of Aging (1)
Prerequisites: Ger 5610 and Ger 5611or SW 5610 and 5611 or Psy 5610 and Psy 5611 or equivalents or consent of instructor. (Same as SW 5612 and Psy 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, mind, and behavior.

6401 Health and Wellness in the Elderly (3)
Prerequisite: Graduate standing. Same as Nurs 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.

6441 Aging and Health Behavior (3)
Prerequisite: Graduate standing. (Same as Psy 6441). 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.

6443 Health Care Policy (3)
Prerequisites: Graduate standing and consent of instructor. Same as Pol Sci 6443, PPA 6430 and SW 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.

6444 Seminar in Public Policy and Aging (3)
Prerequisite: Consent of instructor. Same as PPA 6440 and Pol Sci 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.

6445 Sociological Dimensions of Chronic Illness (3)
Prerequisite: Soc 5400 or consent of instructor. Same as Soc 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.

6449 Issues in Retirement (3)
Same as Soc 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.

6450 Gerontological Assessment (3)
Prerequisites: Graduate Standing (Same as SW 6450) This course provides an overview of psychosocial assessment with older adults and their family caregivers. Major areas of gerontological assessment practice are considered, including dementia, mood disorders, suicide, grief, alcoholism, elder abuse/neglect, family caregiving, and interdisciplinary team issues.

6458 Geriatric Optometry (2)
Same as Opt 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.

6460 Long Term Care Administration (3)
Prerequisites: Graduate Standing. This course provides an overview of long term care programs and services for older adults. Administrative issues are reviewed, including patient services, state licensure requirements, human resource management, and reimbursement practices. Characteristics of well-functioning facilities are addressed, as well as consultation with families during the placement decision process.

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.

6494 Integrative Research Seminar in Gerontology (3)
Same as Psy 7494. Prerequisite: A graduate level research methods course (e.g., PPA 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.

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.

6496 Advanced Practicum in Gerontology (3)
Prerequisites: Ger 6495 and consent of instructor. Advanced practicum experience beyond Gerontology 6495. Students must complete a minimum of 150 clock hours of supervised fieldwork (service or research) with older adults.

6497 Interdisciplinary Geriatric Care (2)
Same as Opt 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.

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.)

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.)

Public Policy Administration

Faculty

Andrew D. Glassberg, Associate Professor of Public Policy Administration and Political Science,* Director of Public Policy Administration
Ph.D., Yale University
Glen H. Cope, Professor of Public Policy Administration and Political Science*, Provost and Vice Chancellor for Academic Affairs
Ph.D., Ohio State 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
George J. McCall, Professor Emeritus of Public Policy Administration and Sociology
Ph.D., Harvard University
Donald Phares, Professor Emeritus of Public Policy Administration and Economics
Ph.D., Syracuse University
Lana Stein, Professor of Political Science and Public Policy Administration*
Ph.D., Michigan State University
Anne E. Winkler, Professor of Public Policy Administration and Economics*
Ph.D., University of Illinois
Deborah B. Balser, Associate Professor of Public Policy Administration and Business Administration*
Ph.D., Cornell University
Jean Germain Gros, Associate Professor of Public Policy Administration and Political Science*
Ph.D., University of California-Berkeley
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*
Ph.D., University of Colorado at Denver
James M. Krueger, C.P.A., Assistant Professor of Public Policy Administration and Accounting*, Vice Chancellor of Managerial and Technology Services
D.B.A., Indiana University
John McClusky, Affiliate Associate Professor of Public Policy Administration and Political Science,* Director of Nonprofit Management and Leadership Program
Ph.D., University of California-Berkeley
Gerald J. Blasi, Affiliate Assistant Professor of Public Policy Administration and Political Science*
Ph.D., SUNY Binghamton University

*Members of Graduate Faculty

General Information

The University of Missouri-St. Louis' Public Policy Administration (PPA) program has three components: the Master of Public Policy Administration (MPPA) degree program, the Nonprofit Management and Leadership Program, and the Local Government Partnership.

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, to the Public Policy Research Center, and to the Center for International Studies. The PPA 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 display proficiency in college algebra.

Prerequisites

Students must demonstrate competency in computer-based applications, including spreadsheets, databases, and Internet use. These competencies must be demonstrated in the first

semester of the degree program by completing a computer proficiency examination.

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
6400, Proseminar in Public Policy Administration
6600, Organizational Behavior and Administrative Processes

Budgeting
6180, Governmental Budgeting and Financial Control

Economics
6080, Microeconomics for Policy Analysis
6210, Public Sector Microeconomics

Policy Analysis
6000, Introduction to Policy Analysis
6900, Cases in Public Policy Administration

Statistics and Applications
6010, Introduction to Policy Research
6750, Introduction to Evaluation Research Methods

Exit Project
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 6990, examining a problem in public policy administration in the final semester. PPA 6000 should be taken at the beginning of the program. It is strongly recommended that PPA 6010 and PPA 6080 be taken early. PPA 6900 is a capstone course and must be taken at 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 emphasis area in consultation with their advisors.

Prior to the completion of 15 hours in the MPPA program, students should identify an emphasis area. In each of the emphasis areas students may be able to substitute another course for a specified elective, with MPPA Director's approval. Specific requirements for each emphasis area are as follows:

1) Managing Human Resources and Organizations
a. Required (3 hours)
PPA 6490, Human Resources in the Public Sector

b. Electives (9 hours) chosen from:
MGMT 5611, Advanced Organizational Behavior and Administrative Processes
MGMT 5624, Organizational Training
Econ 6400, Labor Economics
PPA 6680, Negotiating Workplace Conflict
Pol Sci 3470, Collective Bargaining
PPA 6950, Internship – 3 hours (in assignment relevant to emphasis area)

2) Policy Research and Analysis
a. Required (3 hours)

Pol Sci 6402, Intermediate Techniques in Policy Research OR **Econ 4100,** Introduction to Econometrics

b. Electives (9 hours) chosen from:

Pol Sci 6403, Advanced Techniques in Policy Research OR
Econ 4110, Applied Econometrics
Econ 3510, Public Finance: State and Local
Econ 4550, Natural Resource Economics
Econ 4160, Geospatial Economic Analysis
Econ 6760, Health Economics
Econ 6400, Labor Economics
Econ 6900, Advanced Topics in Economic Analysis
Pol Sci 6404, Multi-Method Research
Pol Sci 6414, Topics in Public Policy Analysis
Pol Sci 6422, Law, Courts, and Public Policy
Soc 4040, Survey Research Practicum OR
Soc 5432, Survey Research Methods
PPA 6950, Internship (in assignment relevant to the emphasis area)

3) Local Government Management
*a. Required (6 hours)
PPA 6340, Seminar in City Administration **OR**
PPA 6350, Issues in Urban Management
AND EITHER
Pol Sci 6470, Proseminar in Urban Politics **OR**
Pol Sci 6471, Seminar in Urban Politics

b. Electives (6 hours) chosen from:
PPA 6490, Human Resources in the Public Sector
PPA 4940, Leadership and Management in Nonprofit Organizations
PPA 6680, Negotiating Workplace Conflict
Economics 3510, Public Finance: State and Local
Economics 6700, Political Economy of Metropolitan Areas
Pol Sci 6432, Intergovernmental Relations
PPA 6950, Internship (in assignment relevant to emphasis area)
*** For Local Government Management specialization, courses not taken to fulfill "required 6 hours" may be taken as electives (s).**

NOTE: Students interested in careers in local government management are strongly encouraged to take PPA 6490,

Human Resources in the Public Sector, as one of their electives.

4) Health Policy
a. Required (6 hours)
PPA 6430, Health Care Policy
PPA 6460, Selected Topics in Health Care Policy: Comparative Health Policy

b. Electives (6 hours) chosen from:
PPA 6460, Selected Topics in Health Care Policy (with different substantive area from Comparative Health Policy)
Econ 6750, Political Economy of Health Care
Econ 6760, Health Economics
Ger 4376, Mental Health and Aging
Ger 6401, Health and Wellness in the Elderly
Ger 6441, Aging and Health Behavior
PPA 6950, Internship (in assignment relevant to the emphasis area)

5) Nonprofit Organization Management and Leadership
a. Required (9 hours)
PPA 4911, 4912, 4913, Management Issues in Non-Profit Organizations: Staff Management Issues; Legal Issues; Financial Issues
PPA 4940, Leadership and Management in Non-Profit Organizations
PPA 4960, American Philanthropy and Non-Profit Resource Development

b) Electives - (3 hours) chosen from:
PPA 6490, Human Resources in the Public Sector
PPA 6550, Strategic and Program Planning for Nonprofit Organizations
BA 3451, Accounting for Governmental and Nonprofit Entities
BA 5100, Managerial Communication
BA 5900, Public Policies Toward Business
BA 5700, Contemporary Marketing Concepts
Psych 7412, Social Psychology
PPA 6680, Negotiating Workplace Conflict
PPA 6950, Internship (in assignment relevant to the emphasis area)

Individualized Emphasis 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 PPA6950, Internship (in an assignment relevant to the emphasis area) unless the student has significant public or nonprofit sector experience.

Internships
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 can receive 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. Course credits earned in he certificate program can be applied to the MPPA, but a separate application may be required.

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) Pol Sci 4940 same as PPA4940, Soc, or SW4940

2. Management Issues in Nonprofit Organizations: Staff Management Issues (1 hour) Pol Sci, PPA and SW 4911

3. Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1) (Pol Sci, PPA, and SW 4912)

4. Management Issues in Nonprofit Organizations: Financial Issues (Pol Sci, PPA, and SW 4913)

5. American Philanthropy and Nonprofit Resource Development (3 hours) Pol Sci and SW 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 6000 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

4911 Management Issues in Nonprofit Organizations: Staff Management Issues (1)
Prerequisite: Junior Standing. Same as Pol Sci 4911and SW 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.

4912 Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)
Same as Pol Sci 4812 and SW 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.

4913 Management Issues in Nonprofit Organizations: Financial Issues (1)
Same as Pol Sci 4913 and SW 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.

4940 Leadership and Management in Nonprofit Organizations (3)
Prerequisite: Junior standing. Same as Pol Sci 4940, SW 4840, and Soc 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.

4960 American Philanthropy and Nonprofit Resources Development (3)
Prerequisite: Junior standing or consent of instructor. Same as Pol Sci 4960 and SW 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.

6000 Introduction to Policy Analysis (3)
Same as Pol Sci 6410. Systematic development of a critical/analytic base for dealing with public policy.

6010 Introduction to Policy Research (3)
Same as Pol Sci 6401. Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

6080 Microeconomics for Policy Analysis (3)
Prerequisites: Graduate student standing. Same as Econ 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.

6150 Directed Reading and Research in Public Policy (1-10)
Same as Pol Sci 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.

6170 Income and Pension Policy for the Aged (3)
Prerequisite: Graduate standing or consent of instructor. Same as Pol Sci 6417, Ger 6417, and SW 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.

6180 Governmental Budgeting and Financial Control (3)
Prerequisite: BA 5400. Same as BA 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.

6210 Public Sector Microeconomics (3)
Prerequisites: Econ 3001, or BA 5001, or PPA 6080. (Same as Econ 5500). 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.

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.

6350 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

6400 Proseminar in Public Administration (3)
Same as Pol Sci 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.

6430 Health Care Policy (3)
Prerequisites: Graduate standing and consent of instructor. Same as Pol Sci 6443, Ger 6443, and SW 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.

6440 Seminar in Public Policy and Aging (3)
Prerequisite: Consent of instructor. Same as Ger 6444 and Pol Sci 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.

6460 Selected Topics in Health Care Policy (3)
Prerequisite: Consent of instructor. Same as Pol Sci 6446 and Soc 6446. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

6490 Human Resources in the Public Sector (3)
Prerequisite: PPA 6600 or consent of instructor. Same as Pol Sci 6449 and SW 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.

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.

6550 Strategic and Program Planning for Nonprofit Organizations (3)
Prerequisites: Graduate standing or consent of instructor. Same as Pol Sci 6490 and SW 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.

6600 Organizational Behavior and Administrative Processes (3)
Same as MGMT 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.

6680 Negotiating Workplace Conflict (3)
Prerequisites: PPA/MGMT 5600, and Graduate Standing. Same as MGMT 5612 and Soc 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.

6750 Introduction to Evaluation Research Methods (3)
Prerequisites: At least one course in Research Design and Statistics at the graduate level. Same as Psy 5475, Soc 5475, and CCJ 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.

6800 Management Information Systems (3)
Prerequisite: Econ 3150. Same as MS/IS 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.

6900 Cases in Public Policy Administration (3)
Prerequisites: 24 hours of public policy administration courses, at least 15 of which are in core courses. This capstone course intensively analyzes public policy administration cases drawn from a variety of issues and settings.

6950 Internship (3)
Independent study involving work with an appropriate public, private, or nonprofit agency.

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

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.

In Addition to the Honors Program for four-and two-year students outlined below, the Bachelor of General Studies Degree Program is now housed in the Honors College. Please find the information on this degree program following the Honors College information below.

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 1100, 3100**, and **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 (4100).

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):**
**A pilot program in 2005 will replace some of the below. General Education requirements will be satisfied by the new freshman-level seminars.

Scholars take **Honors 1100, 1200,** and **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. **

1100, Freshman Composition
1200, Freshman Symposium I
1300, Critical Analysis
1110-1150, The Western Traditions Series
1210-1250, The American Traditions Series (elective)
1310-1350, The Non-Western Traditions Series

Second Year (6 credit hours): *Curriculum revisions may take place in January, 2005.

Scholars take **two** of the following **Honors** classes:
2010, Inquiries in the Humanities
2020, Inquiries in the Fine and Performing Arts
2030, Inquiries in the Social and Behavioral Sciences
2040, Inquiries in Mathematics and Computing
2050, Inquiries in the Sciences
2060, Inquiries in Business
2070, Inquiries in Education
2080, Inquiries in Nursing

Honors students in the four-year program may also take **Honors 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 **(3010-3080)** and/or Research Seminar **(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 4900-4990).** During the final year, students also take **Honors 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 **3100,** Advanced Composition: Writing the City; one course from the **Inquiries** series **(2010-2080;** one course from *either* the Advanced Seminar **(3010-3080** *or* Research Seminar **(3510-3580** 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 3000 and 4000 level options, including **4100,** the honors writing portfolio (1 credit hour) and at least one course chosen from the **3010-3080** or **3510-3580 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 administrative office at (314) 516-6870 or from the office of admissions.

Scholarships and stipends.
Every new freshman or transfer student admitted in good standing 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 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 3000 and 4000 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 at the Honors College during registration.

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.

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.
*A pilot program will replace some of the following courses in 2004-05. General Education requirements will be satisfied by the new freshman-level seminars. Specifics will be available by contacting the Honors College office, 516-6870.

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.

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.

1110 Western Traditions: Humanities [C, H].
1120 Western Traditions: Arts
1130 Western Traditions: Social and Behavioral Sciences [C, SS]
1140 Western Traditions: Mathematics
1150 Western Traditions: the Sciences

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 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.

1210 American Traditions: Humanities (C, H)
1220 American Traditions: The Arts
1230 American Traditions: Social and Behavioral Sciences (V, SS)
1240 American Traditions: Mathematics
1250 American Traditions: The Sciences
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.

1310 Non-Western Traditions: Humanities [MI, CD, H]
1320 Non-Western Traditions: The Arts [CD]
1330 Non-Western Traditions: Social and Behavioral Sciences [C, V, CD, SS]
1340 Non-Western Traditions: Mathematics [CD]
1350 Non-Western Traditions: The Sciences [CD]

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.

2010 Inquiries in the Humanities [C, H]
2020 Inquiries in the Fine and Performing Arts [C, H]
2030 Inquiries in the Social and Behavioral Sciences [SS]
2040 Inquiries in Mathematics and Computing [MS]
2050 Inquiries in the Natural Sciences [C, MS]
2060 Inquiries in Business
2070 Inquiries in Education
2080 Inquiries in Nursing

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 3100 meets the Advanced Composition requirement of the university.

3010 Advanced Honors Seminar (3)
Prerequisite: Consent of the dean of the Honors College. Open only to Honors College Students and not acceptable for graduate credit. Usually restricted to juniors and seniors, these advanced seminars focus on in-depth study of a significant body of subject matter. The perspective employed will normally be interdisciplinary or multi-disciplinary 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.

3010 Advanced Honors Seminar in the Humanities
3020 Advanced Honors Seminar in the Fine and Performing Arts
3030 Advanced Honors Seminar in the Social and Behavioral Sciences
3040 Advanced Honors Seminar in Mathematics and Computing
3050 Advanced Honors Seminar in the Sciences
3060 Advanced Honors Seminar in Business
3070 Advanced Honors Seminar in Education
3080 Advanced Honors Seminar in Nursing

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.

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.

3510 Research Seminar in the Humanities
3520 Research Seminar in the Fine and Performing Arts
3530 Research Seminar in the Social and Behavioral Sciences
3540 Research Seminar in Mathematics and Computing
3555 Research Seminar in the Sciences
3560 Research Seminar in Business
3570 Research Seminar in Education
3580 Research Seminar in Nursing

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 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.

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.
4910 Honors Independent Research/Internship in the Humanities
4920 Honors Independent Research in the Fine and Performing Arts
4930 Honors Independent Research in the Social and Behavioral Sciences
4940 Honors Independent Research in Mathematics and Computing
4950 Honors Independent Research in the Sciences
4960 Honors Independent Research in Business
4970 Honors Independent Research in Education
4980 Honors Independent Research in Nursing
4990 Honors Independent Research in Engineering

Beginning in the 2005-06 academic, year, the **Bachelor of General Studies** degree (B.G.S.) will be offered through the Pierre Laclede Honors College. This degree program 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 university and must complete an application for admission to the program. Applications may be obtained at the Pierre Laclede Honors College. An Admissions Committee will review the applications and admit students based on the following:

- 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, C-, D+, D, D-. Regardless of the

focus, theme, or purpose, the personal emphasis area should result from self-examination and contribute to self –realization and an advanced level of academic competence and achievement. The program must be approved by the BGS Committee. Students and advisers periodically review the program and make appropriate modifications where necessary, subject to the BGS Committee's approval.

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 complete an intent to graduate form one year from the graduation date; this form is available in the Honors College.

College Of Nursing

Faculty

Shirley A. Martin, Interim Dean
Ph.D., Saint Louis University
Roberta K. Lee, Hubert C. Moog
Endowed Professor of Nursing*,
Dr. PH, University of Texas-Houston
Lucille Lombardi Travis, Professor*
Ph.D., R.N., C.N.A.,BC
Ohio State University
Jean Bachman, Associate Professor*,
Director of Doctoral Program
D.S.N., University of Alabama-Birmingham
Anne Fish, Associate Professor*
Ph.D., University of Michigan-Ann Arbor
Ruth L. Jenkins, Associate Professor*
Ph.D., Saint Louis University
Donna Taliaferro, Associate Professor*
Ph.D., Texas Women's University-Denton
Dawn Garzon, Assistant Professor*
Ph.D., University of Missouri-St. Louis
Kuei-Hsiang Hsueh, Assistant Professor*
Ph.D., University of Arizona
Kimberly Stieglitz, Assistant Professor*
D.N.S., Rush University
Connie K. Koch, Clinical Professor*
Ed.D., Southern Illinois University-Edwardsville
Judith Maserang, Clinical Professor*,
Director of Extended Learning
Ph.D, Saint Louis University
Dottye Akerson, Clinical Associate Professor
Ph.D., Saint Louis University
Wilma Calvert, Clinical Associate Professor
Ph.D., University of Missouri-St. Louis
Susann Farbermann, Clinical Associate Professor
M.Ed., PNP, Washington University
Sandy Lindquist, Clinical Associate Professor*
Ph.D., Saint Louis University
Cynthia Mitchell, Clinical Associate Professor
MSN, University of Missouri-Columbia
Julie Campbell, Clinical Assistant Professor
MSN, University of Missouri-St. Louis
Kathy Hufker, Clinical Assistant Professor
MSN, Texas Women's University
Jean Nelson, Clinical Assistant Professor
Ph.D., University of Missouri-St. Louis
Melodie Rowbotham, Clinical Assistant Professor
MSN, University of Missouri-St. Louis
Linda Sherman, Clinical Assistant Professor
MSN, Southern Illinois University-Edwardsville
Kevin Wilson, Clinical Assistant Professor
MSN, Saint Louis University
Vicky Becherer, Clinical Instructor
MSN, Jewish Hospital College of Nursing
Janet Whitworth, Clinical Instructor
MSN, University of Missouri-St. Louis
Mary Kay Wolf, Clinical Instructor
MSN, Saint Louis University

* Members of Graduate Faculty

General Information

The College of Nursing 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. program in Nursing is offered in cooperation with the Schools of Nursing at University of Missouri- Columbia and Kansas City. Admission to the Ph.D. program is available at the post B.S.N. and M.S.N. levels.

Undergraduate Studies

The 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 approved by 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, or outstanding students who have completed all prescribed general education and science course work. 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 2103 (or equivalent), and NS 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 NS 0100, NS 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 Services and Records office at (314) 516-6066 or 1-888-NURSEUM or http://www.umsl.edu/divisions/nursing.

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 at selected metropolitan sites, 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 1131, Human Physiology and Anatomy I
Biology 1141, Human Physiology and Anatomy II
Biology 1162, General Microbiology
Chem 1052, Chemistry for Health Professions (or equivalent)

2) Behavioral science course work
Psych 1003, General Psychology
Psych 1268, Human Growth and Behavior
Econ 1000, Introduction to American Economy (or equivalent)

3) Humanities
Phil 2256, Bioethics (or equivalent)

4) Nursing
Nursing 0100, Orientation to Nursing
Nursing 2103, Nutrition and Health (or equivalent)
Nursing 2105, Communication in the Nursing Profession (or equivalent)
Nursing 3799, Quantitative Analysis in the Health Sciences (or equivalent)
Nursing Course Work Requirements

Prelicensure
3101, Nursing and Health*
3106, Assessment of Clients in Health and Illness*
3110, Pathophysiological Bases of Nursing Practice
3111, Pharacotherapeutics in Nursing Practice
3205, Adult Health Nursing I*
3206, Adult Health Nursing II*
3214, Psychiatric Mental Health Nursing*
3215, Nursing of Women and Childbearing Families*
3216, Child and Family Health Nursing*
3804, Ethical and Legal Dimensions of Nursing Practice
3807, Nursing Research
3808, Management and Leadership in Nursing
3817, Information Systems Utilized in Health Care
4300, Community Health Nursing*
4310, Senior Synthesis*

RN/BSN
3807, Nursing Research (or equivalent)
3808, Management and Leadership in Nursing
3817, Information Systems Utilized in Health Care*
3900, Dimensions of Professional Nursing
3920, Health Assessment*
4901, Family and Community Nursing*
4905, Values in Professional Nursing
4911, Synthesis in Nursing Practice*
* Includes a laboratory and/or clinical component

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 through Jewish Hospital College of Nursing and Allied Health.

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.

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 College of Nursing. 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 1811, Intro Biology I (5)
Bio 1131, Anatomy & Physiology I (4)
Bio 1141, Anatomy & Physiology II (4)
Bio 2482, Microbiology (3)

Bio 2483, Microbiology Lab (2)
Bio 4842, Immunobiology (3)
Bus 1800, Comp and Info Systems (3)
Bus 3600, Mgt & Org Behavior (3)
Chem 1111, Intro to Chemistry I (5)
Chem 1121, Intro to Chemistry II (5)
Chem 2223, Quantitative Analysis (3)
Chem 2612, Organic Chemistry I (3)
Chem 2622, Organic Chemistry II (3)
Com 1030 or 1040, Interpersonal Com or Public Speaking (3)
Eng 1100, English Comp (3)
Math 1035, Trigonometry (2)
NS 3110, Patho Bases of Nrsg Practice (3)
Psy 1003, General Psychology
Psy 2268, Growth & Development
Soc 1010, Intro to Sociology

Clinical requirements:
Bio 4810, Issues and Trends in Role Development (3)
Bio 4010, Clinical Bacteriology (3)
Bio 4110, Bacteriology Practicum (4)
Bio 4250, Parasitology and Mycology (2)
Bio 4410, Clinical Immunology (2)
Bio 4450, Immunology Practicum (1)
Bio 4510, Immunohematology (3)
Bio 4550, Immunohematology Practicum (3)
Bio 4601, Hematology (4)
Bio 4661, Hematology Practicum (3)
Bio 4701, Clinical Chemistry (3)
Bio 4750, Chemistry Practicum (4)
Bio 3807, Research Methods Health Sciences (3)

Cytotechnology:
Courses (specific courses of distribution area and credits):

Humanities (9):

State requirement (3)
Bio 1811, Intro Biology I (5)
Bio 1131, Anatomy & Physiology I (4)
Bio 1141, Anatomy & Physiology II (4)
Bio 1162, General Microbiology (4)
Bio 3631, Histology and Microtech (5)
Bio 4842, Immunobiology (3)
Bus 1800, (or CIS 1010 Intro to Computers (3)
Bus 3600, Mgt & Org Behavior (3)
Chem 1111, Intro to Chemistry I (5)
Chem 1121, Intro to Chemistry II (5)
Chem 2612, Organic Chemistry I (3)
Com 1030 or 1040, Interpersonal or Public Speaking (3)
Eng 1100, English Comp (3)
Eng 3130, Technical Writing (3) OR Eng 3160, Writing in the Sciences (3)
Math 1030, College Algebra (3)
Math 1035, Trigonometry (2)
NS 3110, Pathophysiological Bases of Nursing Practice (3)
Psy 1003, General Psychology
Psy 1268, Growth and Development
Soc 1010, Intro to Sociology (3)

Clinical requirements:
HS 4000, Intro to Cytology (3)
HS 4100, Female Genital Tract I (4)
HS 4200, Female Genital Tract II (3)
HS 4300, Processing Lab (2)
HS 4400, Respiratory and Order (3)
HS 4600, Body Fluid Cytology (3)
HS 4700, Gastro Genitourinary Cytology (3)
HS 4800, Fine Needle Aspiration (4)
HS 4900, Adv Practices in Cytology (12)
HS 3520, Leadership and Mgmt Cytology (3)
HS 3807, Research Methods Health Science (3)

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 educator; 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 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.

- Successful completion of an undergraduate health assessment course or equivalent
- Computer literacy.
- 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 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
- 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 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
6104, Values and Diversity in Health Care
6106, Policy, Organization, and Financing of Health Care
6140, Health Promotion Across the Life Span
6111, Theoretical Foundations of Nursing Practice
6112, Nursing Research Methods
6114, Evidenced Based Nursing
6309, Role of the Nurse Educator
6320, Nursing Program and Curriculum Development
6321, Instructional Strategies in Nursing Education
6952, Synthesis Practicum
Educ 6410, The Adult Learner
Ed Rem 6707, Classroom Measurement and Evaluation
OR
Ed Rem 6709, Educational and Psychological Measurement

Nursing Leadership of Health Systems
6104, Values and Diversity in Health Care
6106, Policy, Organization and Financing of Health Care
6111, Theoretical Foundations of Nursing Practice
6112, Nursing Research Methods
6114, Evidenced Based Nursing
6140, Health Promotion Across the Life Span
6409, Role of the Nurse Leader
6425, Managed Care Services
6426, Health Resources Management
6428, Theory and Practice in Nursing Leadership
6952, Synthesis Practicum
Elective from Nursing, Business, or Managerial Decision Making and Informatics

Advanced Practice Nurse (Clinical Nurse Specialist or Nurse Practitioner)
6104, Values and Diversity in Health Care
6106, Policy, Organization and Financing of Health Care
6111, Theoretical Foundations of Nursing Practice
6112, Nursing Research Methods
6114, Evidenced Based Nursing
6140, Health Promotion Across the Life Span
6509, Role of the Clinical Nurse Specialist/ Nurse Practitioner
6518, Pathophysiology for Advanced Nursing Practice
6524, Health Assessment for Advanced Nursing Practice
6520, Pharmacology for Advanced Nursing Practice
6730, Adult Primary Care I: Diagnosis & Management in Advanced Nursing Practice OR
6741, Family Health I: Diagnosis & Management in Advanced Nursing Practice OR
6743, Child Health I: Diagnosis & Management in Advanced Nursing Practice OR
6746, Women's Health I: Diagnosis & Management in Advanced Nursing Practice OR
6740, Adult Primary Care II: Diagnosis & Management in Advanced Nursing Practice OR
6742, Family Health II: Diagnosis & Management in Advanced Nursing Practice OR
6744, Child Health II: Diagnosis & Management in Advanced Nursing Practice OR
6747, Women's Health II: Diagnosis & Management in Advanced Nursing Practice
6954, Advanced Practice Nursing: Internship I
6955, Advanced Practice Nursing: Internship II

Doctor of Philosophy in Nursing

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.

The curriculum is divided into three general categories of knowledge:

- Nursing Theory/Science/Modes of Inquiry
- Quantitative and qualitative research methods,
- Philosophical foundations of science
- Cognates outside of the discipline of nursing

Admission Requirements
Doctoral students are admitted at various times during the academic year. Applicants are evaluated based on the following criteria:

- Graduation from an accredited baccalaureate program with 3.2 minimum GPA (4.0 scale).
- Graduation from an accredited master's program with a 3.5 minimum GPA (4.0 scale).
- Graduate Record Examination (GRE)
- Two letters of reference.
- Original essay on professional goals and research interests.
- International applicants should meet minimum requirements on tests of written and spoken English (TOEFL, Minimum 550 or better is desired).
- International students must also apply through the International Student Services http://www.umsl.edu/services/intelstu.
- Interview by invitation.

Degree Requirements
While each program of study is individualized, Ph.D. students complete a minimum of 72 hours of graduate-level course work that include a minimum of 12 hours for the dissertation. A maximum of 30 M.S.N. hours, which support the program of study, are individually evaluated to determine eligibility for transfer.

The following defines the overall structure of the program:

Nursing Theory/Science/Modes of Inquiry

Nursing Theory, 6-9 hours within the College of Nursing that include the development of nursing science and theory.
Philosophical foundations of science.
Advanced nursing theory development and validation.

Nursing Science, 9-16 hours within the College of Nursing. Of these courses, students choose at least one course from one of the three substantive areas:

- Health Promotion and Protection
- Health Restoration and Support
- Health Care Systems

Quantitative & Qualitative Research Methods, Philosophical Foundations of Science

Research and Inquiry, 6-12 hours external to the College of Nursing, such as advanced statistics, research design, or computer applications.

Nursing Research and Inquiry, 12-18 hours within the College of Nursing that include quantitative design, and methods in nursing research; advanced qualitative design, methods and analysis of nursing data; advanced quantitative measurement and analysis of nursing data; and qualitative methods in nursing research.

Dissertation, 12 hours.

Cognates, 9-12 hours outside the discipline of nursing which support the selected substantive area.

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 of Nursing 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 general education requirements must be successfully completed before beginning 3100 level nursing courses.

All previous level nursing courses must be successfully satisfied prior to progressing to the next level nursing courses.

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.

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.

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.

3101 Nursing and Health (6)
Prerequisites: Bio 1131, Bio 1141, Bio 1162, Chem 1052, Nursing 1010; pre- or co- requisites: Nurs 3106, Nurs 3110, Nurs 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.

3106 Assessment of Clients in Health and Illness (3)
Prerequisite: Bio 1131, Bio 1141, Bio 1162, Chem 1052, Psych 1268, Nurs 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.

3110 Pathophysiological Bases of Nursing Practice (3)
Prerequisite: Bio 1131, Bio 1141, Bio 1162, Chem 1052 (or equivalent), Nurs 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.

3111 Pharmacotherapeutics in Nursing Practice (3)
Prerequisite: Bio 1131, Bio 1141, Bio 1162, Chem 1052, Nurs 0100; pre/co requisite: Nurs 3110. This course introduces key terminology, legal foundations, general principles and clinical applications of pharmacology.

3205 Adult Health Nursing I (5)
Prerequisite: All 3100 level nursing courses, Psych 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.

3206 Adult Health Nursing II (5)
Prerequisite: All 3100 level nursing courses, Psych 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.

3214 Psychiatric Mental Health Nursing (4)
Prerequisite: All 3100-level nursing courses; Psych 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.

3215 Nursing of Women and Childbearing Families (4)
Prerequisite: All 3100 level nursing courses, Psych 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.

3216 Child and Family Health Nursing (4)
Prerequisite: all 3100 level nursing courses, Psych 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.

3799 Quantitative Analysis in the Health Sciences (3)
Prerequisite: Math 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.

3804 Ethical and Legal Dimensions of Nursing Practice (3)
Prerequisites: Philosophyy (3 credits). 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.

3807 Nursing Research (3)
Prerequisite: Nurs 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.

3808 Management and Leadership in Nursing (3)
Prerequisites: All 3200-level nursing courses; Nurs 3807; Nurs 3817. Econ 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 multi-disciplinary work and the application of outcome-based nursing practice.

3817 Introduction to Nursing and Health Informatics (3)
Prerequisite: None. This online laboratory course establishes competency in fundamental information management and computer technology skills. It enables students to use existing information systems and available information to manage nursing practice. Students critically evaluate technology, information, and its sources; use decision support systems designed for clinical decision making; and focus on the representation of nursing data, information, and knowledge.

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.

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.

3920 Health Assessment (3)
Prerequisites: Nurs 3900 and Nurs 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.

4300 Community Health Nursing (4)
Prerequisites: All 3000-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.

4310 Senior Synthesis (5)
Prerequisites: all 3000-level nursing courses, Nurs 4300 and 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.

4338 Sociology of Health (3)
Same as Soc 4338. Prerequisites: Soc 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.

4720 Perioperative Nursing (3)
Prerequisite: Consent of instructor. Provides experiences in preoperative, intraoperative, and postoperative settings. Includes a clinical component.

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.

4723 Nurse Externship (3)
Prerequisites: Senior level status; GPA 3.0 (4.0 scale) This course provides the opportunity to apply theoretical and conceptual knowledge and skills in a structured clinical environment under the guidance of a mentor.

4724 Emergency/Trauma Nursing (3)
Prerequisites: Nurs 3205 and 3206 or consent of instructor. This course provides a framework for the roles and responsibilities of the professional registered nurse in Emergency and Trauma nursing care.

4725 Education and the Psychology of Human Sexuality (3)
Same as Ed Psych 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.

4741Advanced 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.

4742 Critical Care Nursing of the Adult (3)
Prerequisite: RN or completion of Nurs 3205 and 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.

4752 Primary Care Nursing (3)
Prerequisites: Completion of all junior level courses; Corequisite: Nurs 4911. This course introduces the role of the advanced practice nurse as a principal provider of primary health care to families across the life span. Major issues relate to health care provided in a variety of community settings are addressed.

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.

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.

4901 Family and Community Nursing (5)
Prerequisites: Nurs 3900, 3817 and 3920. This practicum course introduces the concepts, principles, skills, and professional nursing roles essential to practice community-based professional nursing with families and groups.

4905 Values in Professional Nursing (3)
Prerequisites: All 3000 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 health care 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.

4911 Synthesis in Nursing Practice (5)
Prerequisites: Nurs 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 achieve while in the BSN Completion Program.

5000 Health and Wellness in the Elderly (3)
Prerequisite: Graduate standing and consent of instructor. Same as Ger 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.

5100 Nursing Case Analyses in Acute and Critical Care of the Elderly (3)
Prerequisite: Nurs 5110, 6748, 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.

6104 Values and Cultural Diversity in Advanced Nursing Practice (3)
Prerequisites: Admission to MSN Program. This course explores the diversity of cultural influences and the moral/ethical influences on advanced nursing practice. The values and cultural beliefs of the individual student and the underlying values of the health care system are analyzed for their impact on communities and health care. Health/illness beliefs and practices of individuals, families and communities are explored as well as folk health care and complementary medicine.

6106 Policy, Organization and Financing in Health Care (3)
Prerequisite: Admission to MSN program or consent of instructor. This course is designed to explore the underpinnings of health policy as it relates to advanced nursing practice. It provides an overview of health care policy, organization and financing with emphasis on current health care trends within the framework of the workplace, government, professional organizations, and community. The policy making process at the organizational, local, state, national, and international level is explored. The variety of forces influencing policy and the policy making process are analyzed with emphasis on the nurses' role in influencing health care delivery, outcomes of client care, and nursing professional issues. Use of Health services and nursing research to influence policy is introduced.

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.

6112 Nursing Research Methods (3)
Prerequisites: Nurs 3799 or equivalent; Nurs 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.

6114 Evidence Based Nursing (3)
Prerequisites: Nurs 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.

6140 Health Promotion Across the Life Span (3)
Pre or corequisite: Nurs 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 ad protection, epidemiology, disease and injury prevention, health education, growth and development, nutrition, and family systems theory.

6309 Role of the Nurse Educator (3)
Prerequisite: Admission to the MSN program or consent of instructor. This course is designed to explore the various aspects of a nurse educator role. Issues, opportunities, and challenges are explored. The culture of nursing education, as well as the various roles of the nurse educator, is examined.

6320 Learning and Curriculum Development in Nursing (3)
Prerequisite: None. This course is designed to help the student learn about the components and process of designing an overall nursing curriculum. The students will develop an understanding of the theories of learning, components of a nursing curriculum, the principle of curriculum development of program goals and objectives, the effects of the environment on the nursing curriculum, and assessing program needs.

6321 Instructional Strategies in Nursing Education (3)
Prerequisite: Nurs 6320 or consent of instructor. Provides students in the master's level nursing education option with knowledge about a variety of instructional strategies used in nursing education to help students learn. Students will become familiar with the when, where, and how of instructional strategies used in the classroom and clinical areas. The use of technology and distance strategies in nursing education will be explored. Students will learn to assess learner needs and manage the learning environment.

6323 Educational Evaluation in Nursing (2)
Prerequisites: Nurs 6324. This course is designed to help the student learn methods of assessing nursing student's learning and achievement of goals in the classroom and clinical areas. Different methods of assessment in nursing will be explored. Students will be exposed to nursing program evaluation and learn how to maintain appropriate academic records.

6324 Nursing Education Research (2)
Prerequisites: Nurs 6112. This course is designed to explore research in nursing education. Current research related to nursing education will be explored as well as future opportunities for research. Methodology in nursing

education research will be discussed. This course also examines scholarly writing and grant writing.

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.

6425 Managed Care Services (3)
Prerequisite: Admission to MSN or consent of instructor. Provides analysis of health care environment in managed care and its impact on nurse's role.

6426 Health Resources Management (3)
Prerequisite: Nurs 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.

6428 Theory and Practice in Nursing Leadership (3)
Prerequisite: Nurs 6409. Focuses on theories and practices of advanced nursing leadership and management within complex health care organizations.

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.

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.

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.

6520 Pharmacology for Advanced Nursing Practice (3)
Prerequisite: Nurs 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

6524 Health Assessment for Advanced Nursing Practice (3)
Prerequisite: Nurs 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.

6526 Advanced Health Assessment for Pediatric Nursing Practice (3)
Comprehensive assessment of children through adolescence, including those with significant health and/or developmental deviations, using advanced diagnostic reasoning processes. Emphasis on health history, cultural diversity, differentiations, interpretation, and documentation of findings.

6529 Advanced Pharmacology for Pediatric Nursing Practice (3)
Prerequisites: Admission to Master of Science in Nursing or permission of the instructor.
The major focus of this course is the pharmacotherapeutic use of medications for primary health care management of children from birth to eighteen years of age by advanced practice nurses.

6739 Adult Primary Care I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: Nurs 6105, 6106, 6108, 6140, 6111, 6112, 6518, 6524, 6520; 6509 & 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.

6740 Adult Primary Care II: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: Nurs 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.

6741 Family Health I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: Nurs 6106, 6108, 6140, 6111, 6112, 6518, 6524, 6520, 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.

6742 Family Health II: Diagnosis and Management in Advanced Nursing Practice (5)
Prerequisites: Nurs 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.

6743 Child Health I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: Nurs 6105, 6106, 6108, 6140, 6111, 6112, 6518, 6524, 6520, & 6114 may be take 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 child and family developmental issues for advanced practice pediatric nurses. Normal cognitive, motor, social/emotional and language development and usual developmental challenges of each age group are addressed. Implications of the developmental stage of the child and family, level of developmental skill and developmental problems for the maintenance of health and management of illness by the advanced practice 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.

6744 Child Health II: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisite: Nurs 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.

6746 Women's Health I: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisites: Nurs 6105, 6106, 6108, 6140, 6111, 6112, 6518, 6524, 6520 & 6114 may be take 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.

6747 Women's Health II: Diagnosis & Management in Advanced Nursing Practice (5)
Prerequisite: Nurs 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.

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.

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.

6877 Thesis/Directed Research Seminar (1)
Prerequisites: Nurs 6112 and permission of thesis/directed research chair. Presentation and discussion of selected research problems in nursing.

6878 Directed Research (1-6)
Prerequisites: Nursing 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.

6879 Research Thesis (1-6)
Prerequisites: Nurs 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.

6948 Evidenced-Based Clinical Nursing Practice (5)
Prerequisite: Nurs 6112. This course provides the student with advanced education and clinical experience in the nursing care of a chosen specialty population. It requires the completion of population-specific modules and 250 clock hours of clinical practice in the specialty nursing area.

6950 Advanced Clinical Practice for Nursing Education (3)
Prerequisite: Nurs 6321. This is a clinical course providing experiences in the nurse educator role. Students will spend 375 clock hours with a preceptor in the various roles of a nurse educator.

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.

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.

6955 Advanced Practice Nursing: Internship II (2)
Prerequisite: 6954. Continuation of precepted clinical experiences with selected populations initiated in Nursing 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.

7480 Guided Nursing Research Seminar (1-6)
Prerequisites: Consent of instructor. Provides opportunity to work in collaboration with faculty and peers in a focused research topic relevant to nursing.

7481 Development of Nursing Science and Theory (3)
Prerequisites: Consent of instructor. This course focuses on the discipline of nursing, including the evolution of the state-of-the-art theory development in nursing. The course includes the aims of nursing science, the nature of scientific theories, theory analysis, a discussion of relationships among theory, research, and practice. Students engage in constructive dialogue as they begin to conceptualize nursing phenomena in their area of interest, and develop and evaluate the validity of a conceptual model.

7482 Health Promotion and Protection (3)
Prerequisites: Consent of instructor. This seminar focuses on the theoretical basis for health promotion and protection addressing modes of nursing that are supportive and educative. The populations of interest include individuals and families across the lifespan with the goal to promote and maintain health and to reduce risks for illness or injury.

7483 Health Restoration and Support (3)
Prerequisites: Consent of instructor. This seminar focuses on theoretical basis for health restoration and support addressing human responses to acute, critical and chronic health conditions. Populations of interest include individuals and families at risk for health crises such as cancer, HIV/AIDS, frail elderly, chronic illness, physical and cognitive impairment, and pain.

7484 Health Care Systems (3)
Prerequisites: Consent of instructor. This seminar focuses on theoretical basis of health care systems. Students examine nursing and healthcare delivery models and the political and historical development of models such as primary care, primary nursing, case management, managed care, informatics, and decision support systems.

7485 Quantitative Design and Methods in Nursing Research (3)
Prerequisites: Admission to the doctoral program in Nurs 6112, and consent of instructor. This course focuses on quantitative research methods appropriate for nursing including experimental and non-experimental methods such as quasi-experimental, longitudinal, correlational, and descriptive design. Advantage and disadvantages of these designs will be addressed. Research questions and sources of errors related to each of these designs will be discussed.

7488 Qualitative Methods in Nursing Research (3)
Prerequisites: Consent of instructor. Examines the relationship between theoretical and philosophical perspectives and selection of appropriate methodologies in research design. Critically explores issues related to innovations in traditional qualitative designs and emerging technologies, rigor and validity and role of interpretive research in nursing science.

7490 Advanced Quantitative Design, Methods, and Analysis of Nursing Data (3)
Prerequisites: Nurs 7485. This course focuses on issues in sampling and design, and implementation of interventions in nursing research. Content includes design and analysis issues affecting internal and external validity. Strategies and data manipulation related to univariate and basic multivariate analysis with computers are discussed.

7491 Advanced Nursing Theory Development and Validation (3)
Prerequisites: Nurs 7481 or consent of instructor. This course focuses on a systematic study of contemporary nursing science, on knowledge development, and on the application of major theory construction and validation strategies to specific nursing phenomena of interest. Students create and critically examine theoretical frameworks and models, with emphasis placed on constructing and testing theoretical statements.

7492 Advanced Quantitative Measurement and Analysis of Nursing Data (3)
Prerequisites: Nurs 7490. This course focuses on measurement techniques and their applications in nursing research. Content includes examination of measurement and techniques for assessing validity, reliability, and structure of data collection instruments; instrument construction and procedures for critical evaluation of instruments; application of advanced statistical principles; application of strategies for data manipulation and analysis; and discussion of measurement limitations and data analysis solutions.

7493 Psychometrics (3)
Prerequisites: Nurs 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.

7498 Doctoral Seminar (1-12)
Prerequisites: Consent of instructor. Presentation and discussion of pertinent methodological and clinical issues related to doctoral research.

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.

Bachelor of Health Sciences

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 and clinical laboratory technician clinical requirements.

3520 Leadership and Management Cytology (4)
Prerequisite: Economics 1001 or Business 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.

3807 Research Methods in Health Sciences (3)
Prerequisite: Psychology 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.

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.

4010 Clinical Bacteriology (3)
Prerequisite: Biology 2482 and 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.

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.

4110 Bacteriology Practicum (4)
Prerequisite: Biology 4010 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.

4200 Female Genital Tract II (3)
Prerequisite: Biology 4100 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.

4250 Parasitology and Mycology (2)
Prerequisite: Biology 2482 or 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.

4300 The Processing Laboratory (2)
Prerequisite: Biology 4200 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.

4400 Respiratory and Order (3)
Prerequisite: Biology 4900 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.

4410 Clinical Immunology (2)
Prerequisite: Biology 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

4450 Immunology Practicum (1)
Prerequisite: Biology 4410 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.

4510 Immunohematology (3)
Prerequisite: Biology 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.

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.

4600 Body Fluid Cytology (3)
Prerequisite: Biology 4400 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.

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 hemapathology. 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.

4661 Hematology Practicum (3)
Prerequisite: Biology 4601or 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.

4700 Gastrointestinal Genitourinary Cytology (3)
Prerequisite: Biology 4600 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.

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.

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 4701. 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.

4800 Fine Needle Aspiration Cytology (4)
Prerequisite: Biology 4700 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.

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.

4900 Advanced Practices in Cytology (12)
Prerequisite: Biology 4800 or consent of instructor. This clinical 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.

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://optometry.umsl.edu and link to the College of Optometry Bulletin. It is a downloadable document in PDF format.

Administration and Faculty

Larry J. Davis, Dean, Associate Professor*
O.D., Indiana University; Residency, Contact Lenses, University of Missouri-St. Louis
Gerald A. Franzel, Associate Dean for Continuing Education and E-Learning, Clinical Associate Professor,
O.D., University of Houston
Ralph P. Garzia, Assistant Dean for Clinical Programs; Associate Professor and Program Coordinator for Residency in Pediatrics and Binocular Vision*
O.D., Residency, Pediatric Optometry, Pennsylvania College of Optometry
Jerry L. Christensen, Professor*
O.D., Ph.D., The Ohio State University
Vinita A. Henry, Director, Residency Programs, Co-Chief Contact Lens Service and Program Coordinator for Residency, Contact Lenses; Clinical Professor
O.D., Residency, Contact Lenses, University of Missouri-St. Louis
Raymond I. Myers, Clinical Professor,
O.D., Indiana University
Carol K. Peck, Professor*
Ph.D., Postdoctoral Fellow, University of California-Los Angeles
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M.S., University of Alabama-Birmingham, O.D., Southern College of Optometry
Carl J. Bassi, Associate Professor*
Ph.D., Vanderbilt University, Postdoctoral Fellow, University of Southern California, Doheny Eye Institute
Edward S. Bennett, Director of Student Services; Co-Chief, Contact Lens Service; Associate Professor*
M.S.Ed., O.D., Indiana University-Bloomington
Vasudevan Lakshminarayanan, Associate Professor*
M.Sc., University of Madras, India,
Ph.D., University of California-Berkeley
William F. Long, Associate Professor*, Coordinator for Informatics
Ph.D., Michigan State University, O.D., Indiana University
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M.A., Webster College, M.P.H., University of Illinois at the Health Sciences Center - Chicago, O.D., The Ohio State University
Leonard L. Naeger, Clinical Associate Professor
Ph.D., University of Florida; Residency, Hospital-Based Pharmacy, VA Medical Center, St. Louis**
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D.V.M., Ph.D., University of Missouri-Columbia
Case Western Reserve University
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O.D., University of Missouri-St. Louis**
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O.D., Illinois College of Optometry**
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O.D., University of Missouri-St. Louis
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O.D., M.S., University of Houston, College of Optometry
Stephen Viola, Clinical Assistant Professor
Ph.D., Indiana State University
Gary Vogel, Clinical Assistant Professor
O.D., Ohio State University**
Jeffrey L. Weaver, Clinical Assistant Professor
M.S., The Ohio State University; M.B.A., Drury College; O.D., Pennsylvania College of Optometry; Residency, Family Practice, The Ohio State University

Matt Wickham, Clinical Assistant Professor
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Erwin Wong, Assistant Professor
O.D., Southern California College of Optometry;
Ph.D., University of Houston

*members of Graduate Faculty
**part-time

Off-Campus Adjunct Faculty

Joseph H. Maino, Adjunct Professor
O.D., Illinois College of Optometry; Residency,
Rehabilitative Optometry, VA Medical Center, Kansas City
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O.D., The Ohio State University
M.P.H., University of Illinois
Sean Mulqueeny, Adjunct Associate Professor
O.D., University of Missouri-St. Louis
Stuart Richer, Adjunct Associate Professor
O.D., University of California
Levent Akduman, Adjunct Assistant Professor
M.D., Hace Hepe, University of Turkey
Craig Andrews, Adjunct Assistant Professor
O.D., Indiana University
Thomas B. Barnes, Adjunct Assistant Professor
O.D., UC Berkeley
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O.D., Indiana University-Bloomington
P. Douglas Becherer, Adjunct Assistant Professor
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O.D., Illinois College of Optometry
Clifford Brown, Adjunct Assistant Professor
O.D., Pacific University
Robert Brusatti, Adjunct Assistant Professor
O.D., University of Missouri-St. Louis
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O.D., University of Houston
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O.D., University of Oklahoma
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O.D., V.A. Wichita, Kansas
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O.D., Southern College of Optometry
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Dwayne Young, Adjunct Assistant Professor
O.D., Indiana University
Heather Zutaut, Adjunct Assistant Professor
O.D., Pennsylvania College of Optometry

General Information
The UM-St. Louis College of Optometry enrolled its first class in 1980, graduating 32 students in May 1984. The college is located on the South Campus complex of the University of Missouri-St. Louis at 7800 Natural Bridge Road. A five-story building houses the college'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. These and other affiliated health centers in the St. Louis area 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.

Situated in Missouri's largest metropolitan area, the college 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 College 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 emphasizes optical and biomedical 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 course work and clinical training in ocular disease and pharmacology. The fourth year provides additional patient care experiences and includes rotations through the externship program, 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, and the Harvester Eye Center, the College of Optometry also has a 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, 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-Kerber 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..

A student who satisfactorily completes all four years of the professional curriculum will be eligible to receive the doctor of optometry degree. 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.

The College of Optometry is a member of the Association of Schools and Colleges of Optometry and is accredited by the Accreditation Council on Optometric Education (ACOE).

All optometry students enrolled in the University of Missouri-St. Louis College of Optometry are eligible for membership in the various student optometric associations, including AOSA affiliated with the American Optometric Association and MOSA which is affiliated with the Missouri Optometric Association. Through these organizations, and many others, students become involved in local and national optometric activities. The organizations provide 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 Programs

The University of Missouri offers highly qualified students the opportunity to complete undergraduate studies and the doctor of optometry degree within seven years total, rather than the typical eight years. Students can qualify for this program while still in high school, after taking the ACT or SAT exam. Exceptional academic performance in required. This program offers professional and academic advisement by the College of Optometry faculty throughout the undergraduate experience, as well as offering early exposure to clinically related activities and participation in Optometry student association activities.

Entry into the 3+4 program allows the student to apply to the College of Optometry, usually during the junior year in college, while completing pre-requisite courses both for their degree and for consideration for admission into the College of Optometry. Those students accepted into the College of Optometry for the fall following their junior year will be granted their undergraduate degree following successful completion of their first year in optometry school. Students may pursue their undergraduate degree in biology or physics, and through either the College of Arts and Sciences or through the Pierre Laclede Honors College. A similar program may be available for chemistry majors.

Students should work with their undergraduate advisors well as the academic advisor in optometry, to insure that all pre-requisite courses are taken prior to taking the Optometry Admission Test (OAT), which is required prior to being offered an interview for consideration for admission to the College of Optometry.

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
Liberal Arts - 2

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 college come from a variety of undergraduate backgrounds, such as biological sciences, chemistry, psychology, education, and business.

Admission Test

All applicants are required to take the Optometry Admission Test (OAT). The OAT is now offered through computer

sites. One last paper exam will be offered October 20, 2005. Since the computerized version may be scheduled at any time, please insure you take the OAT before February 1st of the year you plan to enroll in order to be considered for admission. 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, the exam may be repeated. 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
http://www.opted.org

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 college 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 February 15 to be considered for admission to the class entering in August of the same year. Facsimile (faxed) application material will be not accepted or acknowledged. Application material received after February 15 will not be evaluated for the class entering in August of the same year. To be considered for merit scholarships, there is an early enrollment deadline. All materials must be received by December 15 in order to be considered for the early application deadline. Applications 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
317 Marillac Hall
One University Blvd.
St. Louis, MO 63121-4499

Applications may also be submitted online by accessing an application at http://optometry.umsl.edu. Click on "applying to the college."

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
One University Blvd.
St. Louis, MO 63121-4499
(314) 516-5229

Selection Procedures
Applications are reviewed beginning in August with interviews scheduled and initiated starting in October. The college uses a 'rolling admissions' process that 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 to 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 that forbid discrimination on the basis of race, color, religion, sex, sexual orientation, national origin, age, disability or status as a Vietnam era veteran.

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 15 days 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/finaid , 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 college' 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 the Millennium Student Center. 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.

	Resident	Non-resident
Summer 2005*	$4,039.20	$8,052.80
Fall 2005	8,078.40	16,105.60
Winter 2006	8,078.40	16,105.60

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 $504.90. 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: Information Technology Fee is $11.00 per credit hour (no maximum); Student Facility, Activity, and Health Fee $37.20 for the first credit hour during the summer and $42.20 for the first credit hour during the Fall and Winter/Spring semester. Additional credit hours (up to the prescribed maximums are assessed at the rate of an additional + $32.20 per credit hour (maximum 6 credit hours for Summer and 12 credit hours for the Fall and Winter/Spring.

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.

The Parking fee $18.00 per credit hour for all 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 or visit their website at www.umsl.edu/services/health or call (314) 516-5671. Short term health insurance is also available through University Health Insurance. For students registered at UM-St. Louis College of Optometry, health insurance is available through the American Optometric Student Association. Visit the website at http://www.studentinsurance.net/Public/ClientBrochures/2004_1849_1.pdf

***Nonresident Students**
Optometry 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. (314-516-5151) 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.

Four-Year Professional Degree (O.D.) Curriculum

First Year

Fall Semester	Credit Hours	Lecture	Lab
8010 Gross Anatomy, Physiology and Disease Processes	5	4	2
8020 Geometric Optics	4	3	2
8030 Practice Management I	2	2	-
8040 Neuroanatomy	4	3	2
8060 Biochemistry	3	3	-
8350 Epidemiology	2	2	-
Winter Semester			
8110 Gross Anatomy, Physiology and Disease Processes II	5	4	2
8120 Ocular Optics	4	3	2
8140 Physical Optics and Photometry	3	2	2
8160 Anatomy and Physiology of the Eye	5	4	2
8180 Clinical Optometry I	2	1	2

Second Year

Fall Semester			
8220 Ophthalmic Optics	4	3	2
8230 Practice Management II	2	1	2
8240 Ocular Motility	4	3	2
8250 Monocular Sensory Processes	5	4	2
8260 General Pharmacology	3	3	-
8280 Clinical Optometry II	5	3	4

Winter Semester

8320 Ophthalmic Dispensing	1	-	2
8340 Binocular Vision and Space Perception	4	3	2
8360 Ocular Pharmacology	3	3	-
8370 Ocular Disease	4	3	2
8380 Clinical Optometry III	5	3	4
8560 Public Health	2	2	-

Third Year

Fall Semester	Credit Hours	Lecture	Lab
8390 Clinical Medicine	2	2	-
8500 General Clinic I	6	-	12
8520 Contact Lenses I	3	2	2
8540 Binocular Vision Anomalies	4	3	2
8550 Low Vision	3	2	2
8570 Ocular Disease II	4	3	2

Winter Semester

8600 General Clinic II	6	-	12
8610 Environmental Vision	2	2	-
8620 Contact Lenses II	3	3	-
8630 Practice Management III	3	3	-
8640 Pediatric Optometry	3	3	-
8650 Geriatric Optometry	2	2	-
8660 Contact Lens Specialty Clinic	1	-	2
8670 Ocular Assessment	1	1	-
8680 Ophthalmic Lasers I	1	-	
8690 Pediatric /Binocular Specialty Clinic I	1	-	2

Fourth Year

Category 1 UM-St. Louis

Note: Must enroll in 8700, 8710, and 8720 concurrently

8700 UM-St. Louis Pediatric/ Binocular Vision Patient Care	3	-	6
8710 UM-St. Louis Contact Lens Patient Care	3	-	6
8720 UM-St. Louis Eye Health Management Patient Care	1	-	2

Category 2 Institutional

8780 External Rotation in Institutional Patient Care	7	-	14

Category 3 Ocular Disease

8790 External Rotation in Ocular Disease Patient Care	7	-	14

- Due to advances in the optometric profession, sequencing of courses may change. The courses listed above are subject to change through normal academic procedures.

Category 4 Intern

Note: Must enroll in 8730 and 8740 concurrently. Must enroll in 8750 and 8860 concurrently.

8730 Optometric Center Patient Care	6	-	12
8740 Optometric Center Eye Health Management Patient Care	1	-	2
8750 East St. Louis Center Patient Care	6	-	12
8760 Harvester Eye Center Patient Care	7	-	14
8770 Community Service in Rotation in Patient Care	7	-	14
8860 East St. Louis Eye Health Management Patient Care	1	-	2

Category 5 Specialty	Credit Hours	Lecture	Lab
8800 External Rotation in Pediatric/Binocular Vision Patient Care	7	-	14
8810 External Rotation in Contact Lens Patient Care	7	-	14
8820 External Rotation in Low Vision Patient Care	7	-	14

Category 6 Elective

8830 External Rotation in General Patient Care	7	-	14
8840 External Supplementary Rotation in General Patient Care	7	-	14
8850 Supplementary Rotation in General Patient Care	7	-	14

Required Courses

8870 Practice Management IV	2	2	1
8880 Clinical Seminar	1	1	-

Elective Courses in the College of Optometry

8400 Directed Readings
8410 Directed Research
8420 Ocular Photography
8440 Clinical Applications of Current Topics in Visual Science
8470 Case Studies in Ocular Diseases
8910 Topics in Geriatric Optometry
8970 Geriatric Patient Care Delivery

Graduate Physiologic Optics Courses Approved for Elective Credit*

6400 Sensory Processes and Perception
6401 Visual Optics
6402 Ocular Anatomy and Physiology
6403 Psychophysical Methods and Experimental Design
6404 Sensory Neuroscience
6405 Neuroanatomy
6406 Geometric Optics
6451 Corneal Physiology
6452 Growth and Development of the Visual System
6453 Advanced Physiology of Other Sensory Systems
6454 Binocular Vision
6455 Visual Information Processing
6456 Oculomotor Systems

6457 Comparative and Evolutionary Aspects of Vision
6458 Noninvasive Assessment of the Visual System
6459 Introduction to Computer Programming for Vision Research
6470 Individual Studies in Physiological Optics
6490 Graduate Research in Physiological Optics
6497 Interdisciplinary Geriatric Care
6499 Current Topics in Optometry and Vision Science

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

Vision Science (Physiological Optics)
Vision science 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 and colleges 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 must 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 post baccalaureate 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. Early applications are encouraged.

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 6490, 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 6400, Sensory Processes and Perception
Physiological Optics 6401, Visual Optics
Physiological Optics 6402, Ocular Anatomy and Physiology
Physiological Optics 6403, Psychophysical Methods and Experimental Design
Physiological Optics 6404, Sensory Neuroscience

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 in Physiological Optics.

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 6400, Sensory Processes and Perception
Physiological Optics 6401, Visual Optics
Physiological Optics 6402, Ocular Anatomy and Physiology
Physiological Optics 6403, Psychophysical Methods and Experimental Design
Physiological Optics 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
One University Blvd.
St. Louis, MO 63121-4499
(314) 516-5615

Career Outlook

Doctor of Optometry Degree
Doctors of optometry are independent primary health care providers who examine diagnose, treat and manage diseases and disorders of the visual system, the eye and associated structures as well as diagnose related systemic conditions. Optometrists examine the internal and external structure of the eyes to diagnose eye diseases like glaucoma, cataracts and retinal disorders; systemic diseases like hypertension and diabetes; and vision conditions like nearsightedness, farsightedness, astigmatism and presbyopia. Optometrists also do testing to determine the patient's ability to focus and coordinate the eyes, and to judge depth and see colors accurately. They prescribe eyeglasses and contact lenses, low vision aids, vision therapy and medicines to treat eye diseases.

As primary eye care providers, optometrists are an integral part of the health care team and an entry point into the health care system. They are skilled in the co-management of care that affects the eye health and vision of their patients and an excellent source of referral to other health care professionals.

The optometrist has completed pre-professional undergraduate education in a college or university and four years of professional education at a college of optometry, leading to the doctor of optometry (O.D.) degree. Some optometrists complete a residency.

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 30,000 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 treats 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-level courses are taken in the Doctor of Optometry (O.D.) program.

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.

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.

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.

8040 Neuroanatomy (4)
Detailed gross and microscopic anatomy of the human central nervous system with a special emphasis on the cranial nerves, nuclei, and the visual system.

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.

8110 Gross Anatomy, Physiology and Disease Process II (4)
Prerequisite: Opt 8010. Continuation of Human Anatomy and Physiology and Disease Processes I.
(Three hours lecture, two hours laboratory/week.)

8120 Ocular Optics (4)
Prerequisite: Opt 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.

8140 Physical Optics and Photometry (3)
Prerequisite: Optometry 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.

8160 Anatomy and Physiology of the Eye (5)
Prerequisite: Opt 8040 and Opt 8010 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.

8180 Clinical Optometry I (2)
Selected tests for ocular assessment including case history, visual acuity, and ophthalmoscopy.

8220 Ophthalmic Optics (4)
Prerequisite: Opt 8140, and 8120. Ophthalmic materials, physical characteristics of lenses and frames, paraxial optics of ophthalmic lenses, ophthalmic prisms, lens specifications, special lenses, multifocal lenses, unique designs, aniseikonic lenses, abberation theory and its application to lens design, lenses for low vision, protective eyewear, selecting and dispensing eyewear, management of a dispensary.

8230 Practice Management II (2)
Prerequisite: Opt 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.

8240 Ocular Motility (4)
Prerequisite: Opt 8040 or consent of instructor. The anatomy, physiology, neurology, measurement, characteristics, and control of the intra and extraocular system.

8250 Monocular Sensory Processes (5)
Prerequisite: Opt 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.

8260 General Pharmacology (3)
Prerequisite: Opt 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.

8280 Clinical Optometry II (5)
Prerequisite: Opt 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 8130. Experiments designed to accompany Opt 8240 and Opt 8250.

8320 Ophthalmic Dispensing (1)
Prerequisite: Opt 8220. Clinical experience in verification and dispensing of ophthalmic materials.

8340 Binocular Vision and Space Perception (4)
Prerequisite: Opt 8240, 8280, and 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.

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.

8360 Ocular Pharmacology (3)
Prerequisite: Opt 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.

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.

8380 Clinical Optometry III (5)
Prerequisite: Opt 8280. Correlation and analysis of optometric data. Emphasis on diagnosis, prognosis, and therapy of visual problems.

8390 Clinical Medicine (2)
Prerequisite: Opt 8290 and 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.

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.

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.

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.

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.

8470 Case Studies in Ocular Disease (1)
Prerequisites: 8370, Ocular Disease I and 8570, Ocular Disease II. This course will focus on discussion of current clinical topics in eye disease as they relate to student experiences in the clinic. Ocular diagnosis and management will be reviewed as well as advanced diagnostic techniques.

8500 General Clinic I (6)
Prerequisite: Opt 8380 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.

8520 Contact Lenses I (3)
Prerequisite: Opt 8380. Historical development of the contact lens and its use. Basic lens terminology, specifications, physiochemical characteristics, optics, fabrication, and verification. Preliminary patient evaluation, indications and contraindications for contact lenses. Basic fitting philosophies for all lens types. Lens care and patient education. Patient and practice management considerations.

8540 Binocular Vision Anomalies (4)
Prerequisite: Opt 8310 and 8340 or consent of instructor. The etiology, epidemiology, symptoms, signs, and course sequelae of the obstacles to binocular vision - sensory, integrative, and motor. The detection, diagnosis, prognosis, and orthoptic treatment of such anomalies. Clinical care of aniseikonias.

8550 Low Vision (3)
The etiology, epidemiology, symptoms, signs, and course sequelae of low vision problems. Methods of testing, prognosis, selection of therapy, design of environmental and optical aids, problems of rehabilitation. Agencies, laws, public and social assistance for the partially sighted and blind.

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.

8570 Ocular Disease II (4)
Prerequisite: Opt 8370. The etiology, epidemiology, systems, signs, course sequelae 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.

8600 General Clinic II (6)
Prerequisite: Opt 8500 and successful completion of all Fall semester third year course work. Same as General Clinic I.

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.

8620 Contact Lenses II (3)
Prerequisite: Opt 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.

8630 Practice Management III (3)
Prerequisite: Opt 8030 and Opt 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.

8640 Pediatric Optometry (3)
Prerequisite: Opt 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.

8650 Geriatric Optometry (2)
Same as Gerontology 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.

8660 Contact Lens Specialty Clinic (1)
Prerequisite: Opt 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.

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.

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.

8690 Pediatric/Binocular Vision Specialty Clinic (1)
Prerequisite: Opt 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.

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 8710 Opt and Opt 8720.

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 Eye Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 8700 and Opt 8720.

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 8700 and Opt 8710.

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 8740.

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 8730.

8750 East St. Louis Center Patient Care (6)
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. This course must be taken in conjunction with Opt.8850.

8760 Harvester Eye Center Patient Care (7)
Prerequisite: Successful completion of all first, second, and third year course work. Comprehensive clinical care of patients at the Harvester Eye Center. This course fulfills one of the clinic courses required for graduation.

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.

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.

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.

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.

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.

8820 External Rotation in Low Vision 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.

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.

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.

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.

8860 East St. Louis Eye Health Management Patient Care (1)
Prerequisites: 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 East St. Louis Eye Center. This course fulfills one of the clinical courses required for graduation. This course must be taken in conjunction with Opt 8750.

8870 Practice Management IV (2)
Prerequisite: Successful completion of all first, second, and third year course work. Further in-depth discussion in practice management.

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.

8910 Topics in Geriatric Optometry (3)
Prerequisite: Opt 8650. 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.

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 6000-level courses may be taken in the master of science or doctor of philosophy programs in Physiological Optics.

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.

6401 Visual Optics (3)
Prerequisite: Opt 6406, Opt 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.

6402 Ocular Ahatomy 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.

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.

6404 Sensory Neuroscience (3)
Prerequisite: Opt 6405, Opt 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.

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 6405 and Opt 8040.

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.

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.

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.

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.

6497 Interdisciplinary Geriatric Care (2)
(Same as Gerontology 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.

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.

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
Mary McManus, Academic Advisor
M.Ed., University of Missouri-St. Louis

Faculty

Philip V. Bayly, Professor
Ph.D., Duke University
Christopher I. Byrnes, Professor
Ph.D., University of Massachusetts
Richard A. Gardner, Professor and Advisor
Ph.D., Purdue University
Phillip L. Gould, Professor
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
I. Norman Katz, Professor
Ph.D., Massachusetts Institute of Technology
David A. Peters, Professor
Ph.D., Stanford University
Daniel L. Rode, Professor
Ph.D., Case Western Reserve University
Shankar M. L. Sastry, Professor
Ph.D., University of Toronto
Barry E. Spielman, Professor
Ph.D., Syracuse University
Srinivasan Sridharan, Professor
Ph.D., University of Southhampton
Kevin Z. Truman, Professor and Advisor
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
Carl A. Baggett, Adjunct Professor and Advisor
M.S., University of Missouri-Rolla
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
Mario P. Gomez, Adjunct Professor
Ph.D., Stanford University
William J. Murphy, Adjunct Professor
D.Sc., Washington University
John D. Corrigan, Adjunct Professor and Advisor
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/WU 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. We also make the students aware of the 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 engineers 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,
  Communication and information systems and signals,
  Computer architecture, hardware, and software,
  Electromagnetic engineering techniques,
  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 and electronic circuits, electrical energy systems, and digital or electronic or communication or control 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 that would occur in industrial practice,
- design, modify, conduct, and analyze experiments in the areas of thermal-fluid sciences, solid mechanics, and dynamical systems such as would be appropriate for engineering applications,
- 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 in the workplace today,

- 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 to stay current in the industrial setting,
- 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 3170 (Engineering Mathematics) and JEE 2300 (Introduction to Electrical Networks) with a C- or better, in order to continue in the program.

Mechanical and Electrical Engineering majors must also complete JEE 2300, Introduction to Electrical Networks with a minimum grade of C-.
Civil engineering majors must complete either JEE 2300, Introduction to Electrical Networks, or JCHE 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.

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 3170, Engineering Mathematics, with a minimum grade of C-.
Mechanical and Electrical Engineering majors must also complete JEE 2300, Introduction to Electrical Networks with a minimum grade of C-.
Civil engineering majors must complete either JEE 2300, Introduction to Electrical Networks, or JCHE 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.

Pre-Engineering Requirements

Mathematics 1800, Analytic Geometry/Calculus I
Mathematics 1900, Analytic Geometry/Calculus II
Mathematics 2000, Analytic Geometry/Calculus III
Mathematics 2020, Differential Equations
Chemistry 1111, Introductory Chemistry I
Chemistry 1121, Introductory Chemistry II
Physics 2111, Physics: Mechanics and Heat
Physics 2112, Physics: Electricity, Magnetism and Optics
Engineering 2310, Statics
Engineering 2320, Dynamics
English 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:

- Three courses in the humanities and 3 courses in social sciences must be taken
- One of the social sciences must be a course in American history or government or in Missouri history or government
- One of the humanities or social science courses must be at the junior level or above
- The cultural diversity requirement must be fulfilled.
- Some courses that fulfill the humanities [H] or social sciences [SS] breath 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 advisor.

Engineering Core Requirements
JCS 1002, Introduction to Computing Skills: MATLAB Skills
JCS 1260, Introduction to Computer Programming
JEMT 3170, Engineering Mathematics
JEC 3100, Engineering Communications
JME 3200, Thermodynamics
JME 4310/JEE 4410, Control Systems I*
JEE 2300, Introduction to Electrical Networks* **OR**
JCHE 4430, Environmental Engineering Chemistry
JEE 2330, Electrical and Electronic Circuits Laboratory *
*Required for electrical and mechanical engineering majors only.

Civil Engineering Major Requirements
JCE 1451, Engineering Graphics
JCE 2160, Surveying
JCE 3410, Structural Analysis
JCE 3420, Structural Design
JCE 3520, Environmental Engineering Science
JCE 3760, Open Channel Hydraulics
JCE 4190, Soil Mechanics
JCE 4200, Soil Exploration and Testing
JCE 4740, Economic Decisions in Engineering
JCE 4750, Introduction to Urban Planning
JCE 4760, Site Planning and Engineering **OR**
JCE 4820, Design of Water Quality Control Facilities
JCE 4840, Probabilistic Methods in Civil Engineering Design
JCE 4990, Senior Civil Engineering Seminar
JCE 4720, Legal Aspects of Construction **OR**
JEP 4610, Introduction to Environmental Law and Policy
JME 2410, Mechanics of Deformable Bodies
JME 3360, Material Science
JCE 3360, Civil Engineering Materials Lab
JME 3700, Fluid Mechanics
JME 3721, Fluid Mechanics Laboratory
Civil Engineering Electives

Electrical Engineering Major Requirements
JEMT 3260, Probability and Statistics for Engineering
JEE 2600, Introduction to Digital Logic and Computer Design
JEE 2320, Introduction to Electronic Circuits
JEE 3300, Engineering Electromagnetic Principles
JEE 3320, Power, Energy, and Polyphase Circuits
JEE 3510, Signals and Systems
JEE 4350, Electrical Energy Laboratory
JEE 4650, Digital Systems Laboratory
JEE 4980, Electrical Engineering Design Projects
Electrical Engineering Electives 3000-4990

Mechanical Engineering Major Requirements
JEMT 3260, Probability and Statistics for Engineering
JME 1413, Introduction to Engineering Design: CAD
JME 1414, Introduction to Engineering Design: Project
JME 2410, Mechanics of Deformable Bodies
JME 3210, Energetics for Mechanical Engineers
JME 3221, Mechanical Design and Machine Elements
JME 3250, Materials Science
JME 3700, Fluid Mechanics
JME 3721, Fluid Mechanics Laboratory
JME 3710, Principles of Heat Transfer
JME 3722, Heat Transfer Laboratory
JME 4170, Dynamic Response of Physical Systems
JME 4180, Dynamic Response Laboratory
JME 4040, Mechanical Engineering Design Project
JME 4041, Current Topics in Mechanical Engineering Design
Mechanical Engineering Electives

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 4430, Environmental Engineering Chemistry
JCE 3520, Environmental Engineering Science (EE, ME majors) **OR**
JCE 4750, Introduction to Urban Planning (CE majors)
JCE 4080, Environmental Engineering Laboratory - Water/Soil **OR**
JCE 4090, Environmental Engineering Laboratory - Air
JCE 4820, Design of Water Quality Control Facilities
JEP 4370, Environmental Risk Assessment
JEP 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 3000 and 4000 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

Course Number	Semester Hours	Engineering Design	Engineering Science	Course Number	Semester Hours	Engineering Design	Engineering Science
Engr 1010	1.0	0.0	0.0	JEE 4350	3.0	1.5	1.5
Engr 2310	3.0	0.0	3.0	JEE 4710	3.0	1.2	1.8
Engr 2320	3.0	0.0	3.0	JEE 4670	3.0	1.0	2.0
JCE 1451	3.0	1.0	2.0	JEE 4410	3.0	1.0	2.0
JCE 2160	3.0	0.0	3.0	JEE 4420	3.0	1.0	2.0
JCE 3360	1.0	0.0	1.0	JEE 4820	3.0	1.0	2.0
JCE 3410	3.0	0.5	2.5	JEE 4650	3.0	2.2	0.8
JCE 3420	3.0	2.5	0.5	JEE 4020	3.0	1.5	1.5
JCE 3520	3.0	1.0	2.0	JEE 4600	3.0	1.3	1.7
JCE 3740	3.0	0.0	3.0	JEE 4640	3.0	1.0	2.0
JCE 3760	3.0	0.5	2.5	JEE 4380	3.0	1.0	2.0
JCE 4000	1.0-6.0	Varies	Varies	JEE 4980	3.0	3.0	0.0
JCE 4080	3.0	0.0	2.0	JEMT 3170	4.0	0.0	0.0
JCE 4090	3.0	0.0	0.0	JEMT 3260	3.0	0.0	0.0
JCE 4100	3.0	3.0	0.0	JEP 3810	3.0	1.5	1.5
JCE 4190	3.0	1.0	2.0	JEP 4370	3.0	0.8	2.2
JCE 4200	1.0	0.0	1.0	JEP 4610	3.0	0.0	0.0
JCE 4390	3.0	1.0	2.0	JEE 4640	3.0	1.0	2.0
JCE 4600	3.0	3.0	0.0	JME 1414	2.0	1.5	0.5
JCE 4630	3.0	3.0		JME 1415	2.0	0.0	2.0
JCE 4640	3.0	1.5	1.5	JME 2410	3.0	0.5	2.5
JCE 4690	3.0	3.0	0.0	JME 3200	3.0	0.0	3.0
JCE 4720	3.0	0.0	0.0	JME 3210	3.0	0.0	3.0
JCE 4730	3.0	1.0	2.0	JME 3221	4.0	4.0	0.0
JCE 4740	3.0	0.8	2.2	JME 3250	4.0	0.0	4.0
JCE 4750	3.0	1.5	1.5	JME 3360	3.0	0.0	3.0
JCE 4760	3.0	3.0	0.0	JME 3611	3.0	0.0	3.0
JCE 4770	3.0	0.0	0.0	JME 3700	3.0	0.0	3.0
JCE 1780	3.0	1.0	2.0	JME 3710	3.0	0.0	3.0
JCE 4820	3.0	3.0	0.0	JME 3721	1.0	0.0	1.0
JCE 4840	3.0	1.5	1.5	JME 3722	1.0	0.0	1.0
JCE 4860	3.0	3.0	0.0	JME 4000	1.0-6.0	Varies	Varies
JCE 4940	3.0	0.0	3.0	JME 4160	3.0	0.5	2.5
JCE 4990	1.0	0.0	0.0	JME 4170	4.0	1.0	3.0
JCHE 4430	3.0	0.0	2.0	JME 4190	3.0	0.0	0.0
JCS 1260	3.0	1.0	2.0	JME 4240	3.0	0.5	2.5
JEC 3100	3.0	0.0	0.0	JME 4250	3.0	2.0	1.0
JEE 2330	3.0	1.0	2.0	JME 4290	3.0	1.0	2.0
JEE 2600	3.0	1.5	1.5	JME 4310	3.0	1.0	2.0
JEE 2300	3.0	0.8	2.2	JME 4500	3.0	1.0	2.0
JEE 2320	3.0	0.8	2.2	JME 4530	3.0	3.0	0.0
JEE 3300	3.0	1.0	2.0	JME 4720	3.0	0.0	3.0
JEE 3320	3.0	1.3	1.7	JME 4740	3.0	1.5	1.5
JEE 3620	3.0	1.0	2.0	JME 4760	3.0	0.5	2.5
JEE 3510	3.0	1.0	2.0	JME 4780	3.0	1.5	1.5
JEE 3340	3.0	1.0	2.0	JME 4810	3.0	0.5	2.5
JEE 3360	3.0	1.0	2.0	JME 4820	3.0	0.5	2.5
JEE 3370	3.0	1.0	2.0	JME 4040	4.0	4.0	0.0
JEE 4300	3.0	1.0	2.0	JME 4041	1.0	1.0	0.0
JEE 4340	3.0	1.0	2.0				

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

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.

2310 Statics (3)
Prerequisites: Math 1900 and Physics 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.

2320 Dynamics (3)
Prerequisite: Engineering 2310. Review of vector algebra and calculus. Kinematics of a particle. Newton's laws and the kinetics of a particle. Work and energy. Impulse and momentum. Kinematics of rigid bodies. General theorems for systems of particles. Kinetics of rigid bodies. The inertia tensor.

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 4430 Environmental Engineering Chemistry (3)
Prerequisite: Chemistry 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 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 drawings. This course is required for civil engineering majors.

JCE 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 2620 Introduction to Environmental Engineering (3)
Prerequisites: Math 2000 and Chemistry 1121. The objective of this course is to introduce students to the field of environmental engineering. The course will emphasize basic principles of mass and energy conservation which govern physical, chemical and biological processes. Applications include the estimation of contaminent concentrations and the design of environmental controls.

JCE 3360 Civil Engineering Materials Lab (1)
Testing procedures, testing machines, use of laboratory equipment, analysis of data, and presentation of results. Laboratory tests on static tension, compression, bending, and torsion of metal specimens. Tests on wood. Determination of compressive and tensile strengths of concrete. Design of concrete mixes and verification of strength. Experiments in advanced topics in mechanics of materials.

JCE 3410 Structural Analysis (3)
Prerequisite: JME 2410. A review of the calculation of reactions, shear, and bending moment. Definition, construction and use of influence lines. Deflections for statically determinate structures using the virtual work method. Analysis of statically indeterminate trusses using the method of consistent deformations. Analysis of continuous beams and planar frames using the consistent deformation, slope-deflection and moment distribution methods. The influence of span on strength, stability, and economy of structures. An introduction to structural analysis software.

JCE 3420 Structural Design (3)
Prerequisites: JME 3250 and JCE 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 3520 Environmental Engineering Science (3)
Prerequisite: JME 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 professes and facilities

used for treating drinking water, waste water, and sludge disposal. Waste minimization and recycling in both industrial and municipal settings

JCE 3740 Hydraulics and Hydrology (3)
Prerequisite: JME 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 3760 Hydraulic Engineering (3)
Prerequisite: JME 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 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 4080 Environmental Engineering Laboratory - Water/Soil (3)
Prerequisite: JCHE 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 4090 Environmental Engineering Laboratory - Air (3)
Prerequisite: JCHE 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 4100 Design of Timber Structures (3)
Prerequisites: JCE 3410 and JCE 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 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 4190 Soil Mechanics (3)
Prerequisites: JME 2410 and JME 3700. Basic geology as it relates to index and classification properties of soil. Exploration, sampling, and testing techniques. Soil compaction and stabilization. Capillary, shrinkage, swelling, and frost action in soils. Effective stress, permeability, seepage, and flow nets. Consolidation and consolidation settlements. Stresses in soil. Time rate of consolidation. Mohr's circle, stress path, and failure theories. Shearing strength of sand and clays.

JCE 4200 Soil Exploration and Testing (1)
Prerequisite: JCE 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 4220 Pre-Stressed Concrete Design (3)
Prerequisites: Senior status. Analysis and design of prestressed concrete members. Direct design of composite and noncomposite members for flexure. Design of continuous beams. Flexural strength, shear strength, and design of anchorage zone.

JCE 4230 Construction Cost Engineering (3)
The students will examine cost engineering principles. Fundamentals will be reviewed and applied to problems of cost estimating , cost control, business planning and management science, profitability analysis, project management, and planning and scheduling. The course will conclude with the 3 ½ hour Interim Cost Consultant certification exam administered by the Association for the Advancement of Cost Engineers International. The Interim Level Certification Program allows recent graduates who have at least 4 years experience, in cost management to actively pursue the cost engineering principles certificate. The four years of experience may consist of appropriate college-level academic training (engineering, construction management, architecture, finance, quantity surveying, or other AACE training.

JCE 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 team project.

JCE 4370 Matrix Structural Analysis (3)
Prerequisites: JCE 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 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 4440 Geographical Information Systems in Transportation (3)
Prerequisites: Junior standing. A practical, hands-on approach to spatial database design and spatial data analysis with Geographical Information Systems (GIS) as applied to planning and engineering. Course objectives are to examine how digital earth resources data are collected, stored, analyzed, and displayed. The emphasis will be on transportation problems, although additional applications will be discussed.

JCE 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 struts, plates, and cylindrical shells; nonconservation problems; and numerical methods.

JCE 4600 Highway and Traffic Engineering (3)
Prerequisites: JCE 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 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 4630 Design of Steel Structures (3)
Prerequisites: JCE 3410, JCE 3420. Behavior and design of steel frames by "allowable stress" and "maximum strength" based on deterministic and LRFD (Load-resistance factor design) methods. Design of beams, columns, beam-columns, plate girders, connections, multistory frames, and bridge girders. Torsional design of steel structures. Plastic analysis and design of steel structures. Miscellaneous topics in structural steel construction and design.

JCE 4640 Foundations (3)
Prerequisites: JCE 3420, JCE 4190 and JCE 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 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. Air control systems and navigation principles affecting airport design. Design of the site for runway, taxiway, and terminal location. Pavement and construction principles with respect to design. Current federal policy and fiscal programming for airport planning. Principles of integration with ground transport systems.

JCE 4660 Advanced Design of Concrete Structures (3)
Prerequisites: JME 3250, JCE 3410, JCE 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 4690 Construction Management Project (3)
Prerequisites: JCE 4730 and JEP 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 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 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 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 4741 Construction Project Planning Scheduling (3)
The course will familiarize students with the basic foundation of the construction scheduling process. Included will be a detailed survey of scheduling techniques in an integrated construction planning, scheduling, and control systems. Students will gain an understanding of the critical path method theory, legal implications, and practice. Students will learn to use commercial project management and scheduling software and apply it to a variety of construction problems and projects. (This course will be a combination of two intense weekend meetings, a weekly Internet contact, and two meetings for course introduction and testing.)

JCE 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 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 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 4780 Knowledge-Based Expert Systems in Civil Engineering (3)
Prerequisite: JCS 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 4800 Computer Applications in Construction Management (3)
Prerequisite: JCE 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 4810 Construction Technology (3)
A comprehensive study of the core construction methods and practices used on the jobsite today. Emphasizes the types of construction materials, technologies, and applications available to the contractor, their use and function on the project, and the importance and interrelationship of these factors to the success of the construction project delivery. (Saturday site visits required)

JCE 4820 Design of Water Quality Control Facilities (3)
Prerequisite: JCE 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 4840 Probabilistic Methods in Civil Engineering Design (3)
Prerequisite: JCE 3420 (may be taken concurrently). Probability concepts. Analytical models of random

phenomena. Functions of random variables. Estimating parameters from data. Empirical determination of distribution models. Regression and correlation analyses. Monte Carlo simulation. Detailed examples of the application of probabilistic methods to structural, transportation, hydrologic, and environmental system design.

JCE 4850 Bridge Analysis and Design (3)
Prerequisites: JCE 3420. Study of fundamental bridge design philosophy and theory of analysis using AASHTO Specifications. Strong emphasis on practical design aspects of steel, and concrete bridges and associated analytical approaches. Introduction to commercially available design software providing real world solutions to various design challenges. Seismic design and analysis are also included.

JCE 4860 Design of Masonry Structures (3)
Prerequisite: JCE 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 4940 Public Transportation Technology (3)
Prerequisites: JCE 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 4950 Fundamentals of Engineering Review (1)
Prerequisites: Senior Standing. The topics found in most engineer-in-training exams will be reviewed and illustrated using examples. A discussion of the importance of licensing exams and the strategies for taking these exams will be discussed. The main topics for review include: engineering mathematics, basic chemistry, engineering mechanics, engineering economics, thermodynamics, electrical circuits, and material science.

JCE 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 1002 Introduction to Computing Tools: MATLAB Skills (1)
This course is aimed at the acquisition of MATLAB skills through hands on familiarization and practice. Students practice the array, vector, and mesh grid representations, use programming and plotting, and apply these skills to solve numerical problems and generate reports. (JCS 1002 and CS 1250 can substitute for JCS 1360)

JCS 1260 Introduction to Computing Programming (3)
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 2300 Introduction to Electrical Networks (3)
Prerequisites: Physics 2112 and Math 2020 (may be taken concurrently). Elements, sources, and interconnects. Ohm's and Kirchhoff's laws, superposition and Thevenin's theorem; the resistive circuit, transient analysis, sinusoidal analysis, and frequency response.

JEE 2320 Introduction to Electronic Circuits (3)
Prerequisite: JEE 2300. 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 2330 Electrical and Electronic Circuits Laboratory (3)
Prerequisite: JEE 2300. Lectures and laboratory exercises related to sophomore topics in introductory networks and basic electronics.

JEE 2600 Introduction to Digital Logic and Computer Design (3)
Prerequisite: JCS 1260. 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 3300 Engineering Electro Magnetic Principles (3)
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 3320 Power, Energy, and Polyphase Circuits (3)
Prerequisite: JEE 2300. 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 3340 Network Analysis (3)
Prerequisite: JEE 3510. Theoretical and practical aspects of electrical networks. Loop and nodal analysis of multiport networks. Transfer functions, admittance and impedance functions, and matrices. Magnitude and phase relations. Butterworth, Chebyshev, and other useful network response functions. Network theorems. Computer-aided design. Synthesis of passive (LC, RC, RLC) networks and of active (RC) networks.

JEE 3360 Principles of Electronic Devices (3)
Prerequisite: Physics 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 3370 Electronic Devices and Circuits (3)
Prerequisite: JEE 2320. Introduction to semiconductor electronic devices: transistors and diodes. Device electrical DC and high-frequency characteristics. Bipolar transistors, field-effect transistors, and MOS transistors for analog electronics applications. Transistor fabrication as discrete devices and as integrated-circuit chips. Large-signal analysis of transistor amplifiers: voltage gain, distortion, input resistance and output resistance. Analysis of multitransistor amplifiers: Darlington, Cascode, and coupled-pair configurations. Half-circuit concepts, differential-mode gain, common-mode gain, and differential-to-single-ended conversion. Transistor current sources, active loads, and power-amplifier stages. Applications to operational amplifiers and feedback circuits.

JEE 3510 Signals and Systems (3)
Prerequisites: JEE 2300 and JEMT 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 3620 Computer Architecture (3)
Prerequisite: JEE 2600. 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 4000 Independent Study (1-3)
Prerequisites: Senior in good standing. Opportunities to acquire experience outside the classroom setting and to work closely with individual members of the faculty. A final report must be submitted to the department. Open as a senior elective only. Hours and credit to be arranged. Credit variable, maximum credit per semester 3 hours. Maximum program total credit 3 hours.

JEE 4020 Computer-Aided Design of Electronic Systems (3)
Prerequisites: JEE 2320 and JEE 3510. 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 4300 Engineering Electromagnetics Applications (3)
Prerequisite: JEE 3300. 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 characteristic with effects due to losses. Study of guided waves in rectangular and optical wave guides, 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 4340 Solid State Power Circuits & Applications (3)
Prerequisites: JEE 2320, JEE 3510. 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 4350 Electrical Energy Laboratory (3)
Prerequisite: JEE 2330. 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 4370 Signals and Systems Laboratory – Lecture/Lab (3)
Prerequisites: JEE 3790. A laboratory course designed to complement the traditional EE course offerings in signal processing, communication theory, and automatic control. Signals and systems fundamentals: continuous-time and discrete-time linear time-invariant systems, impulse and step response, frequency response, A/D and D/A conversion. Digital signal processing: FIR and IIR digital filter design, implementation and application of the Fast Fourier Transform. Communication theory: baseband, digital communication, amplitude modulation, frequency modulation, bandpass digital communication. Automatic control: system modeling, feedback control systems, closed-loop transient and frequency response. Laboratory experiments involve analog and digital electronics, and mechanical systems. Computer workstations and modern computational software used extensively for system simulation, real-time signal processing, and discrete-time automatic control.

JEE 4380 Applied Optics (3)
Prerequisite: JEE 3300. 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 4410 Control Systems (3)
Prerequisites: JEMT 3170, JEE 2300 [same as JME 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 4420 Digital Control Systems (3)
Prerequisite: JME 4310. The control of physical systems with a digital computer, microprocessor, or special-purpose digital hardware is becoming very common. Course continues JME 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 control systems. Digital control systems design using transfer and state-space methods Systems comprised of digital and continuous subsystems. Quantization effects. System identification. Multivariable and optimum control.

JEE 4600 Switching Theory (3)
Prerequisite: JEE 2600. 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 4630 Digital Integrated Circuit Design and Architecture (3)
Prerequisite: JEE 2320 and JEE 3620. 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 4640 Digital Systems Engineering (3)
Prerequisite: JEE 2320. 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 poser-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 4650 Digital Systems Laboratory (3)
Prerequisites: JEE 2600, JEE 2320
Procedure 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 4670 Embedded Computer Systems (3)
Prerequisites: 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 4710 Communications Theory and Systems (3)
Prerequisites: JEE 3510 and JEMT 3260. 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 4820 Digital Signal Processing (3)
Prerequisite: JEE 3510. Introduction to analysis and synthesis of discrete-time linear time-invariant (LTI) systems. Discrete-time convolution, discrete-time Fourier transform, Z-transform, rational function descriptions of discrete-time LTI systems. Sampling, analog-to-digital conversion and digital processing of analog signals. Techniques for the design of finite impulse response (FIR) and infinite impulse response (IIR) digital filters. Hardware implementation of digital filters and finite-register effects. The discrete Fourier transform and the fast Fourier transform (FFT) algorithm.

JEE 4980 Electrical Engineering Design Projects (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 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 4370 Environmental Risk Assessment (3)
Prerequisite: JCE 4740 or JEMT 3260. Definition of risk and uncertainty. Risk assessment concepts and their practical application. Principles of human health and ecological toxicology. Bioassays. Exposure characterization, modeling, and measurement. Qualitative and quantitative evaluation of human and animal studies. Dose-response models and parameter estimation. Low-dose extrapolation. Structure activity relationships. Estimating individual risk and aggregate risk. Risk assessment methods in regulatory decision making and standard setting. Application of risk assessment in hazardous waste site evaluation and remediation.

JEP 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 3100 Engineering Communications (3)
Prerequisites: English 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 3170 Engineering Mathematics (4)
Prerequisite: Math 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 3260 Probability and Statistics for Engineering (3)
Prerequisite: Math 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 1413 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 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 2410 Mechanics of Deformable Bodies (3)
Prerequisites: Math 1900 and Engineering 2310. Normal and shear stresses and strains. Stress-strain diagrams. Hooke's law and elastic energy. Thermal stresses. Stresses in beams, columns, torsional members, and pressure vessels. Elastic deflection of beams and shafts. Statically indeterminate structures. Mohr's circle of stress. Stability concepts.

JME 3200 Thermodynamics (3)
Prerequisites: Math 1900, Chemistry 1111 and Physics 2111. Classical thermodynamics, thermodynamic properties, work and heat, first and second laws. Entropy, irreversibility, availability. Application to engineering systems.

JME 3210 Energetics for Mechanical Engineers (3)
Prerequisite: JME 3200. Thermodynamic cycle analysis: vapor power, internal combustion, gas turbine,

refrigeration. Maxwell relations and generalized property relationships for non ideal gases. Mixtures of ideal gases, psychrometrics, ideal solutions. Combustion processes, first and second law applications to reacting systems. Chemical equilibrium. Compressible flow in nozzles and diffusers.

JME 3221 Mechanical Design and Machine Elements (4)
Prerequisites: JME 1414, JME 1415, JME 2410, JEMT 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 3250 Materials Science (4)
Prerequisite: Chemistry 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 3360 Material Science (3)
Prerequisite: Chemistry 1111. Same as JME 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 3611 Materials Engineering (3)
Prerequisite: JME 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 3700 Fluid Mechanics (3)
Prerequisites: JEMT 3170 and Engineering 2320. Fundamental concepts of fluids as continua. Viscosity. Flow field: velocity, vorticity, streamlines. Fluid statics: hydrostatic forces manometers. Conservation of mass and momentum. Incompressible inviscid flow. Dimensional analysis and similitude. Flow in pipes and ducts. Flow measurement. Boundary-layer concepts. Flow in open channels.

JME 3710 Principles of Heat Transfer (3)
Prerequisites: JME 3200, JME 3700 and JEMT 3170. Introductory treatment of the principles of heat transfer by conduction, convection, or radiation. Mathematical analysis of steady and unsteady conduction along with numerical methods. Analytical and semiempirical methods of forced and natural convection systems. heat exchangers: LMTD and e-NTU analysis. Boiling and condensation heat transfer. Radiation between blackbody and real surfaces. Radiation network analysis.

JME 3721 Fluid Mechanics Laboratory (1)
Prerequisite: JME 3700. Physical laboratory exercises focusing on fluid properties and flow phenomena covered in JME 3700. Calibration and use of a variety of equipment; acquisition, processing, and analysis of data by manual as well as automated methods.

JME 3722 Heat Transfer Laboratory (1)
Prerequisites: JME 3721 and JME 3710. Physical laboratory exercises, including some numerical simulations and computational exercises, focusing on heat-transfer phenomena covered in JME 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 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 4040 Mechanical Engineering Design Project (5)
Prerequisite: JME 2410, JME 3200, JME 3221, JME 4250, JME 3700, and JME 3710 Corequisites: JME 4170, JME 4180. 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 4041Current 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.

JME 4160 Advanced Strength and Introductory Elasticity (3)
Prerequisite: JME 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 4170 Dynamic Response of Physical Systems (2)
Prerequisites: Engineering 2320 and JEMT 3170; JME 4170 and JME 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 4180 Dynamic Response Laboratory (2)
Prerequisite: JME 4170 and JME 4180 must be taken during the same semester. Laboratory problems focusing on materials covered in JME 4170.

JME 4190 Experimental Methods in Fluid Mechanics (3)
Prerequisites: JME 3700, JME 3721 and consent of instructor. Experimental approach to problem solving and validation of theoretical/computational methods. Uncertainties in measurement. Review of fundamental equations of fluid dynamics, properties of gases and liquids, similarity laws. Boundary layers, transition turbulence, flow separation. Viscoelastic and multi-phase flows. Wind tunnels, water channels, simulation of phenomena in processing equipment. Pressure sensors, including optically-reactive surface paint. Measurement of velocity with pitot- and venturi-tubes, hot-wire anemometry, ultrasonic probes, laser-Doppler (LDV) and particle-image (PIV) instruments. Compressibility corrections. Measurement of skin friction by direct force sensors, Preston- and Stanton-tubes, diffusion analogies, liquid crystals. Flow visualization with laser light sheet; Schlieren, shadowgraph and interferometric methods. Future trends; flow control, impact of microelectronic sensors and actuators. Laboratory demonstrations using available instrumentation.

JME 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 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 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 4310 Control Systems I (3)
Prerequisite: JEMT 3170, JEE 2300 (same as JEE 4410). Introduction to automatic control concepts. Block diagram representation of single- and multi-loop 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.

JME 4440 Solar Energy (3)
Prerequisites: JME 3200, JME 3700, and JME 3710. 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 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 4510 Computer Controlled Manufacturing (3)
Prerequisites: JCS 1260, JME 4320. Practical applications of mini- and microcomputer based systems for production control, numerical control and robotics. Processors, hardware interfacing, I/O configuration, D/A and A/D conversion. Real time process control. Flexible manufacturing. CIMLab assignments.

JME 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 4720 Fluid Mechanics II (3)
Prerequisites: JME 3200 and JME 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 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 4760 The Engineering Properties of Materials (3)
Prerequisite: Junior standing. A detailed look at themechanical, 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 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 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 4810 Air-Conditioning Systems and Equipment I (3)
Prerequisite: Senior standing. Survey of air conditioning systems. Moist air properties and conditioning processes. Adiabatic saturation. Psychrometric chart. Environmental indices. Indoor air quality. Heat balances in building structures. Solar radiation. Space heating and cooling loads.

JME 4820 Air-Conditioning Systems and Equipment II (3)
Prerequisite: Senior standing. Fluid flow, pumps, and piping design. Room air distribution. Fans and building air distribution. Mass transfer and measurement of humidity. Direct control of heat and mass transfer. Heat exchangers. Refrigeration systems. Absorption refrigeration

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/~umreec.

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 overseas for a summer, semester, or year program. 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 80 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. 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 in mid-February for summer and fall semesters, 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.

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 Major Jocelyn Anderson at the Military Science Department, telephone 516-4872 or check out our Web site at http://www.umsl.edu/~umslrotc/index.htm. 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 $250-400/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 22 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 Drill Team, Color Guard, and Ranger Challenge Team.

Course Descriptions

Military Science

1101 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.

1102 Introduction to Leadership (3)
Learn/apply principles of effective leading. 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.

1201 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.

1202 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.

1301 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.

1302 Leading Small Organizations II (3)
Continues methodology of MS 1301. 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.

1401 Leadership and Management (3)
Prerequisite: Military Science 1302.
Leadership and Management, begins with a series of lessons enabling the students to make informed career decisions as they prepare for accession into the United States Army. The lessons concentrate on Army operations, training management, communications, counseling, leadership skills, and they support the final transition from cadet to lieutenant.

1402 Officership/Transition to Lieutenant (3)
Prerequisite: Military Science 1401.
Transition to Lieutenant completes the evolution from cadet to lieutenant by focusing on three areas: first, students are given a basic foundation in military law; second, students build on previous courses to successfully negotiate case studies and practical exercises; third, students will complete a Senior Leadership Project whereby students integrate, apply, and demonstrate their knowledge of military operations.

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-1001 through AS-1002) 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-1001/1002 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-2001/2002 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-3001 through AS-4002 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-3001/3002 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-4001/4002 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

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.

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.

1095 Brief Overview of the Four Fields of Anthropology (1)
Through the use of videos, readings, and the online course management system, this course provides a brief overview of the four traditional fields of anthropology: biological, archaeological, cultural, and linguistic anthropology. This course is designed for video instruction and offers minimal direct interaction with the instructor.

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.

Biology

1012 General Biology (For Non-Science Majors) [MS]
This telecourse provides a firm foundation in the fundamental principles of biology.

Communication

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.

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.

History

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.

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 1031 or History 1032 may be taken separately.

Philosophy

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.

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.

Psychology

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.

1268 Human Growth and Behavior [SS]
Prerequisites: Psych 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.

2245 Abnormal Psychology
Prerequisite: Psych 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.

4280 The Psychology of Death and Dying
Same as Gerontology 4280. Prerequisite: Psych 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.

Sociology

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.

Appendix

The University of Missouri-St. Louis Honor Statement
The University of Missouri-St. Louis encourages students to pursue excellence within a respectful and collegial environment and to assume responsibility for the consequences of personal actions. For that reason the University requires students to reject any type of dishonest behavior.

Honest precludes seeking, providing, or receiving any form of authorized assistance on tests or any other type of assignment. It requires giving credit through appropriate citation to the author of materials used in written or oral assignments.

The full Student Standard of Conduct is found at http://system.missouri.edu:80/uminfo/rules/programs200010.htm. By registering for a class at UM-St. Louis, students agree to follow this standard of integrity.

Code of Student Conduct

200.010 Standard of Conduct Amended March 20, 1981; August 3, 1990; May 19, 1994; May 24, 2001
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; May 24, 2001

RULES OF PROCEDURES IN STUDENT CONDUCT MATTERS
Bd. Min. 11-8-68, Amended Bd. Min. 3-20-81; Bd. Min. 12-8-89, Amended 5-19-94; Bd. Min. 5-24-01.

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 Section 10.030, which is 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 (c) that procedures shall be definite and determinable within the University of Missouri.

B. DEFINITIONS. As used in these rules, the following definitions shall apply:

1. Primary Administrative Officers. As used in these procedures, the Chief Student Affairs Administrator on each campus is the Primary Administrative Officer except in cases of academic dishonesty, where the Chief Academic Administrator is the Primary Administrative Officer. Each Primary Administrative Officer may appoint designee(s) who are responsible for the administration of these conduct procedures, provided all such appointments must be in writing, filed with the Chancellor of the campus, and the office of General Counsel. The Primary Administrator's Office will certify in writing that the given designee has been trained in the administration of student conduct matters.

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 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, "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 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 calendar days.

D. RECORDS RETENTION. Student conduct records shall be maintained for five years after University action is completed.

E. POLICY AND PROCEDURES.

1. **Preliminary Procedures**. The Primary Administrative Officer/Designee(s) 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/Designee(s) may discuss with any student such alleged misconduct and the student shall attend such consultation as requested by the Primary Administrative Officer/Designee(s). The Primary Administrative Officer/Designee(s), in making an investigation and disposition, may utilize student courts and boards and/or divisional deans to make recommendations.

2. **Informal Dispositions.** The Primary Administrative Officer/Designee(s) shall have the authority to make a determination and 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 may be deemed by the University to be an acceptance of the determination, provided the student has received written notice of the proposed determination and the result of the student's failure to formally reject 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/Designee(s) may refer cases to the Committee without first offering informal disposition.

3. **Formal Procedure and 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 Committee members, which may include a maximum of two 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 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 students to sit with the Committee or two 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/Designee(s).
c. **Notice**. The Primary Administrative Officer/Designee(s) 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/Designee(s) 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.

4. **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/Designee(s) 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. If the Chancellor or Designee reviews the decision, the action of the Chancellor shall be final unless it is to remand the matter for further proceedings.

5. **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/Designee(s), 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/Designee(s) or by the Primary Administrative Officer/Designee(s) 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.

6. **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.

7. **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 Section 10.030, which is 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. Though the student honor system has jurisdiction, together with procedures set forth therein, instead of the Primary Administrative Officer/Designee(s), the standard of conduct called for in any such student honor system shall be deemed to contain at a minimum the same standards set forth in Section 200.010, entitled Standards of Conduct. Procedures shall satisfy the requirements of the Board of Curators' Bylaws, Section 10.030, which is 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/Designee(s) 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.
b. **University Evidence.**
(1) University witnesses are to be called and identified or written reports of evidence introduced as appropriate.
(2) The Committee may question witnesses at any time.
(3) The student or, with permission of the Committee, the adviser or counselor may question witnesses or examine evidence at the conclusion of the University's presentation.
c. **Student Evidence.**
(1) If the student has not elected to make a statement earlier under a.(2) above, 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/Designee(s) may question the student or witnesses.
d. **Rebuttal Evidence.** The Committee may permit the University or the student to offer a rebuttal of the other's presentation.
e. **Rights of Student Conduct Committee.** The Committee shall have the right to:

(1) Hear together cases involving more than one student which arise out of the same transaction or occurrence, but in that event shall make separate findings and determinations for each student;
(2) Permit a stipulation of facts by the Primary Administrative Officer/Designee(s) and the student involved;
(3) Permit the incorporation in the record by reference of any documentation, produced and desired in the record by the University or the student charged;
(4) Question witnesses or challenge other evidence introduced by either the University or the student at any time;
(5) Hear from the Primary Administrative Officer/Designee(s) about dispositions made in similar cases and any dispositions offered to the student appearing before the Committee;
(6) Call additional witnesses or to require additional investigation;
(7) Dismiss any action at any time or permit informal disposition as otherwise provided;
(8) Permit or require at any time amendment of the Notice of Hearing to include new or additional matters which may come to the attention of the Committee before final determination of the case; provided, however, that in such event the Committee shall grant to the student or Primary Administrative Officer/Designee(s) such time as the Committee may determine reasonable under the circumstances to answer or explain such additional matters;
(9) Dismiss any person from the hearing who interferes with or obstructs the hearing or fails to abide by the rulings of the Chair of the Committee;
(10) Suspend summarily students from the University who, during the hearing, obstruct or interfere with the course of the hearing or fail to abide by the ruling of the Chair of the Committee on any procedural question or request of the Chair for order.

2. **Rights of Students Upon Hearing.** A student appearing before a Committee shall have the right to:
a. Be present at the hearing;
b. Have an adviser or counselor and to consult with such adviser or counselor during the hearing;
c. Have students from the Student Panel sit with the Committee or Hearing Panel;
d. Hear or examine evidence presented to the Committee;
e. Question witnesses present and testifying;
f. Present evidence by witnesses or affidavit;
g. Make any statement to the Committee in mitigation or explanation of the conduct in question;
h. Be informed in writing of the findings of the Committee and any sanctions it imposes; and
i. Request review or appeal to the Chancellor as herein provided.

3. **Determination by the Student Conduct Committee.** The Committee shall then make its findings and determinations in executive session out of the presence of the Primary Administrative Officer/Designee(s) and the student charged. Separate findings are to be made:
a. As to the conduct of the student, and
b. On the sanctions, if any, to be imposed. No sanctions shall be imposed on the student unless a majority of the Committee present is reasonably convinced by the evidence that the student has committed the violation charged.

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/Designee(s) 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 procedure 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/Designee(s) and for the purpose of review or appeal be accessible at reasonable times and places to both the University and the student.

8. **Crimes of Violence and Non-Forcible Sex Offenses.** In cases of alleged crimes of violence and non-forcible sex offences:
a. The alleged victim is entitled to have an advisor or counselor present during his or her participation in the hearing.

b. The alleged victim and the accused shall be informed of the outcome of any campus disciplinary proceeding brought alleging a crime of violence or non-forcible 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 counselor to write or speak in the student's behalf. If a satisfactory solution is worked out, the case is closed.

4) If step three did not solve the problem, it is referred to the campus Faculty-Senate Committee on Student Aid. In ordinary practice it is rare for a case to be appealed beyond this step.

5) If, however, the applicant is still not satisfied after review by committee, the case is to be referred to the Chancellor.

6) The next appeal is the President.

The final university appeal would be for the President to refer a case to the Board of Curators.

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, she or he 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.[1]

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 who 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.

Implementation: Each organizational president (or equivalent officer) is required to read and sign the university's Policy on Hazing at the first regular meeting at which he or she presides. This policy, signed by the incoming president (or equivalent officer), must accompany any notification of a change in officers submitted to the Office of Student Activities. Failure to do so will result in the automatic imposition of inactive status on the organization with an accompanying loss of all university privileges until such time as the signed policy is submitted.

Equal Opportunity Policies of the University of Missouri-St. Louis

The University of Missouri-St. Louis is an affirmative action/equal opportunity employer committed to excellence through diversity. Therefore, the university enthusiastically complies with and vigorously enforces each Federal and State Executive Order, law and regulation, University of Missouri Rules and Regulations and University of Missouri-St. Louis directive that prohibits discrimination against employees, students, and others based upon their race, color, religion, sex, sexual orientation, national origin, age, disability, or status as Vietnam era veteran.

The above compliance is established upon, but not limited to, the following employment and education related equal opportunity laws: Civil Rights Act of 1964, Title VII, as amended, Executive Order 11246; Equal Employment Opportunity Equal Pay Act of 1963, as amended Age Discrimination in Employment of 1967, as amended; Vietnam Era Veterans Readjustment Assistance Act of 1974, as amended; Executive Order 11141; Rehabilitation Act of 1973, Sections 503 and 504, as amended; Civil Rights Act of 1964, Title VI, and as amended; Educational

Amendments of 1972, Title IX; and, Americans with Disabilities Act of 1990

The Board of Curators of the University of Missouri has adopted the appropriate equal opportunity policies and procedures in compliance with the above laws and procedures. The Chancellor is responsible for the implementation of equal opportunity at UM-St. Louis. Assisting the Chancellor and each Vice Chancellor is the Office of Equal Opportunity (OEO). All equal opportunity functions for the campus are centralized in the OEO.

The following equal opportunity policies have been established by the University of Missouri Board of Curators to govern the academic and administrative functions of the University:

320.010 EQUAL EMPLOYMENT OPPORTUNITY PROGRAM
330.060 SEXUAL HARASSMENT
240.040 POLICY RELATED TO STUDENTS WITH DISABILITIES
330.070 AFFIRMATIVE ACTION ON COMMITTEE APPOINTMENTS
330.080 MAINTAINING A POSITIVE WORK AND LEARNING ENVIRONMENT

320.010 Equal Employment Opportunity Program

Equal opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and competence without discrimination on the basis of their race, color, religion, sex, sexual orientation, national origin, age, disability, or status as a Vietnam era veteran.

Equal opportunity is and shall be also provided for all students and applicants for admission in compliance with existing legislation.

University of Missouri-St. Louis 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, sexual orientation, religion, national origin, age, disability, or status as a Vietnam veteran.

Each administrative unit of the university employing personnel, admitting students, or entering into contracts is charged with implementation of 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 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, persons with disabilities, 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, persons with disabilities, 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, persons with disabilities, or protected age group members is proportionately underrepresented in a particular personnel category in the university.

Under representation 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 race, color, sex, sexual orientation, religion, national origin, age, disability, or status as a Vietnam era veteran.

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.
b. Physical facilities have been adapted within the limits of the financial resources available to insure access to the university by the persons with disabilities.
c. 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, sexual orientation, religion, national origin, age, disabilities or status as a Vietnam era veteran.
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, sexual orientation, religion, national origin, age, or disability. 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, sexual orientation, religion, national origin, age, disability, 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 provides advice and information to individuals on the grievance procedures and conducts investigations of alleged discrimination.

(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 the recruitment 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 two years.
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, older persons, and persons with disabilities.
d. Campus administrative officers maintain records demonstrating efforts to provide equal opportunity and show affirmative action in the availability and use of university facilities, including recreational facilities.
e. Those responsible for personnel recruitment and employment, 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) Equal Opportunity Advisory Council (EO Council)

a. The EO Council is appointed by the Chancellor.
b. EO Council membership includes a reasonable cross section of personnel, including a representation of women, minorities, and persons with disabilities.
c. The EO Council 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 the recruitment, admission, and retention of students and recruitment, employment, training, promotion, and transfer of employees.
b. University 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.

330.060 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:
a. Submission to or rejection of such conduct is used explicitly or implicitly as a condition for academic or employment decisions; or
b. The purpose or effect of such conduct is to interfere unreasonably with the work or academic performance of the person being harassed; or
c. 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 filling 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 prescripted 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 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 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 prescripted accommodation, such disagreement shall be described in writing promptly and submitted to the Chancellor or his or her 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 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.

330.070 Affirmative Action on Committee Appointments
Executive Guideline No. 13, October 13, 1977.

A. Affirmative Action
As part of the implementation of the Affirmative Action Plan of the University of Missouri, any person appointing any committee for the University or any campus, in selecting the membership, shall give due consideration to the inclusion in such membership of women and minorities unless membership thereon is ex-officio.

330.080 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, January 25, 1990, and October 16, 2003

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. This policy shall not be interpreted in such a way as to violate the legal rights of religious organizations or military organizations associated with the Armed Forces of the United States of America.

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 adviser 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.1.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 adviser 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 requirement 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 adviser 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

12. Grievances shall receive prompt attention. The hearing and the report of the grievance 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.

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.

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