



University
Missouri
St. Louis

Published for the
University of Missouri-St. Louis

Publications Office
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Postmaster: Send address changes to the
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, Mo 63121-4499

2002
2003

Ref
Desk

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Instructional Areas

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

Accounting
 Adult education
 Africana studies
 American studies
 Anthropology
 Applied mathematics
 Archaeology
 Art history
 Astrophysics
 Astronomy
 Athletic coaching
 Biochemistry
 Biology
 Biotechnology
 Black studies
 Business administration
 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
 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 Information Systems
 History
 Higher Education
 Human Resource Management
 Interdisciplinary studies
 International business
 International relations
 International studies
 Japanese
 Jazz studies
 Latin American studies
 Latin
 Legal studies
 Logistics and operations management
 Management and organizational behavior
 Management information systems
 Management science
 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
 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
 Reserve Officer Training Corps
 Secondary education
 Social work
 Sociology
 Spanish
 Special education
 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, age, handicap, or veteran status in any program or activity of the university.

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

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

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

University Programs and Offices

Area Code (314)

Academic Advising (University Advising)

225 Millennium Student Center, 516-5300

Academic Affairs, Vice Chancellor

426 Woods, 516-5371

Administrative Services, Vice Chancellor

243 General Services Bldg., 516-6100

Admissions

351 Millennium Student Center, 516-5451

Advancement

308 Woods, 516-5664

Alumni Center

7956 Natural Bridge, 516-5722

Alumni and Constituent Relations

101 Woods, 516-5833

Anthropology Department

507 Clark, 516-6020

Art and Art History Department

590 Lucas, 516-5975

Arts and Sciences, College of

303 Lucas, 516-5501

Athletics Office

225 Mark Twain, 516-5661

Biology Department

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

327 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 Excellence

421 Woods Hall, 516-4508

Center for Trauma Recovery

Kathy J. Weinman, Lower Level, 516-6738

Chancellor's Office

401 Woods, 516-5252

Chemistry and Biochemistry Department

315 Benton, 516-5311

Child Development Center, University

130 South Campus Classroom Bldg., 516-5658

Communication Department

590 Lucas, 516-5485

Computing, (Information Technology Services)

451 CCB, 516-6000

Continuing Education and Outreach

201 J.C. Penney; Credit and Noncredit Courses,

516-5969

Counseling Services

126 MSC, 516-5711

Criminology and Criminal Justice Department

325 Lucas, 516-5031

Degree Audit Program (DARS)

261A Millennium Student Center, 516-6814

Development Office

426 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

408 SSB, 516-5351

Education, College of

201 Education Administration Bldg., 516-5109

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

Engineering, UM-St. Louis/Washington University

Joint UG

228 Benton, 516-6800

English Department

484 Lucas, 516-5541

Environmental Health and Safety

C400 Daughters of Charity, 516-6363

Evening College

217 Millennium Student Center, 516-5161

Facilities Services

127 GSB, 516-6320

Financial Aid
278 Millennium Student Center, 516-5526

Fine Arts
201 Fine Arts Bldg, 516-6967

Fine Arts and Communication, College of
210 General Services Building, 516-4570

Foreign Languages and Literatures Department
554 Clark, 516-6240

Gallery 210
210 Lucas, 516-5976

Gallery FAB
Fine Arts Bldg, 516-6967

Gallery VISIO
109 MSC, 516-7922

Gerontology Programs
406 Tower, 516-5280

Graduate School
421 Woods, 516-5900

Graphics & Printing
252 General Services, 516-5167

History Department
484 Lucas, 516-5681

Horizons Peer Counseling
427 SSB, 516-5730

Human Resources
211 GSB, 516-5804

Information Technology Services
451 CCB, 516-6000

Interfaith Campus Ministries
180 Millennium Student Center, 516-4545

International Center for Tropical Ecology
216 Benton Hall, 516-4246

International Student Services
304 SSB, 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
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
211 Music Bldg., 516-5980

National Scholarship Information, Office of
Honors College, 516-5243

National Student Exchange
Honors College, 516-6871

Nursing and Health Studies, Barnes College of

130 Administration Building-South Campus, 516-6066

Office of Equal Opportunity/Affirmative Action
127 Woods, 516-5695

Optometry, Clinics (University Centers for Eye Care)
153 Marillac, 516-5131
East St. Louis Eye Center
411 East Broadway, E. St. Louis, IL 62201
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, School of
331 Marillac, 516-5606
Student Services,
317 Marillac, 516-6263

Payroll
211 GSB, 516-5237

Performing Arts Center
228 GSB, 516-4100

Philosophy Department
599 Lucas, 516-5631

Physical Education Program
234 Mark Twain, 516-5226

Physics and Astronomy Department
503J Benton, 516-5931

Pierre Laclède Honors College
Provincial House, 516-6870

Police (Institutional Safety)
44 Telecommunity Center, 516-5155

Political Science Department
347 SSB, 516-5521

Printing Services
261 General Services Bldg., 516-5233

Psychology Department
325 Stadler, 516-5391

Public Policy Administration Master's Program
406 Tower, 516-5145

Public Policy Research Center
362 SSB Bldg., 516-5273

Purchasing (Campus Procurement)
209 Woods, Hall, 516-5366

Records and Transcripts
269 MSC, 516-5676

Regional Center for Education and Work
872-8282

Registration
269 MSC, 516-5545

Research Administration, Office of
341 Woods, 516-5897

Residential Life
123 South Campus Residence Hall, 516-6877

ROTC, Army
Washington University, 935-5546

Social Work Department

590 Lucas, 516-6385

Sociology Department

707 Tower, 516-6366

Sports Information

225 Mark Twain, 516-5660

Student Activities Office

366 MSC, 516-5291

Student Affairs, Vice Chancellor

301 Woods, 516-5211

Student Employment Program: Career Services

327 MSC, 516-5111

Student Government Office

375 MSC, 516-5105

Theatre and Dance

201 General Services Bldg. 516-4570

Transportation Studies

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 MSC, 516-5671

University Meadows

2901 University Meadows Drive, 516-7500

University Relations

440 Woods, 516-5255

Veteran Affairs, Office of

269 Millennium Student Center, 516-5679

Video Instructional Program

201B JCP, 516-5370

Women's Center

211 Clark Hall, 516-5380

Women's and Gender Studies, Institute for

607 Tower, 516-5581

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Introduction to UM-St. Louis

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

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

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

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

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

The curriculum has grown to include more than 40 undergraduate programs, 30 master's programs, seven preprofessional programs, 12 doctoral programs, and one professional degree program. Programs address the particular needs of older students returning to school; of students pursuing pre-architecture, pre-law, pre-medicine,

pre-pharmacy, pre-engineering, or pre-journalism courses, and of students interested in urban careers. Many opportunities exist for students to combine their academic course work with internships that often lead to job offers.

Mission Statement

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

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

Academic Structure

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

College of Arts and Sciences.

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

College of Business Administration

Through its undergraduate and graduate degree programs, the College of Business Administration expands student capability in communication, analysis, and judgment, enabling its graduates to deal effectively with today's complex economic environment. The college maintains a balance between the specialization of professional courses and the diversity of liberal arts.

College of Education

Consistently one of the top three institutions in the state in production of educators, the College of Education provides undergraduate and graduate programs to prepare and sustain educational leaders. Its programs emphasize state-of-the-art technological applications to enhance teaching and learning as well as collaboration among university, school, agency, and corporate partners.

College of Fine Arts and Communication

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

Evening College

For students interested in traditional university study, the Evening College offers many of the undergraduate degree programs and campus services available to day students and ensures that these programs conform to the same standards and requirements as their daytime counterparts. The Bachelor of General Studies (BGS) program is designed for mature students who want more flexibility in reaching their educational goals.

Graduate School

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

College of Optometry

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

Pierre Laclède Honors College

The Pierre Laclède Honors College brings together intellectually curious and gifted students who are pursuing various career goals and earning degrees in disciplines offered by the university's other undergraduate schools and colleges. Honors Scholars follow a special curriculum that combines Honors College classes with course work done

for honors credit in their major areas. In addition to offering scholarships and stipends, the college's Community Mentorship Program links scholars with model urban citizens who share their interests.

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

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

Barnes College of Nursing and Health Studies

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

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

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

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

Louis rates (plus a small surcharge on engineering courses), and receive their degrees from the University of Missouri.

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

Office of International Student Services of the Center for International Studies

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

Student Life

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

The university offers a wide range of varsity and intramural sports for students, whether as players or spectators. On the varsity level, Rivermen and Riverwomen compete in most major sports. UM-St. Louis men's soccer teams have participated in numerous NCAA Division II tournaments; the team won the national title in 1973. The men's basketball, baseball, and golf teams frequently play in national tournaments. The expanding women's program includes varsity competition in basketball, soccer, softball, volleyball, and tennis. The women's soccer team ranks 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 62,000 graduates living in all 50 states and several foreign countries. Of these alumni, more than 80 percent continue to live and work in the St. Louis metropolitan area.

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

Confidentiality Policy

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

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

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

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

- Records of instructional, supervisor, and administrative personnel and educational personnel ancillary thereto which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except a substitute.
- Records of the University of Missouri Police Department which were created for a law enforcement purpose and are maintained by the police department.
- In the case of persons who are employed by the university but who are not in attendance at the

university, records made and maintained in the normal course of business which related exclusively to such persons and that person's capacity as an employee where the records are not available for any other purpose.

- All records on any university student which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his professional or paraprofessional capacity, or assisting in that capacity, and which are created, maintained, or used only in connection with the provision of treatment to the student, and are not available to anyone other than persons providing such treatment, provided, however, that such records can be personally reviewed by a physician or other appropriate professional of the student's choice.
2. The University of Missouri-St. Louis recognizes "Directory Information/Public Information" to mean a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. All students must inform the Office of the Registrar before the end of the two-week period following the first day of classes that any or all of the information designated as directory information should not be released without the student's prior consent. The information listed above will become directory information or public information as of the first day of classes following the end of the two-week period in a regular semester and the first day of classes following the end of the one-week period during the summer session.
3. University of Missouri-St. Louis students have access to the educational records identified in Paragraph 1 above. In accordance with Public Law 93-380 as amended, the University of Missouri-St. Louis will not make available to students the following materials:
- Financial records of the parents of students or any information contained therein.
 - Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, if such letters or statements are not used for the purpose other than those for which they were specifically intended.
 - Confidential recommendations respecting admission to the university, application for employment and receipt of honor, or honorary recognition, where the student has signed a waiver of the student's rights of access as provided in 6.0404, the University Policy on Student Records.
4. The director of Financial Aid, the appropriate academic dean, the coordinator of the Student Health Service, the Vice Chancellor for Student Affairs, the Director of Career Placement Services, the Director of Admissions, and the

Registrar are the officials responsible for the maintenance of each type of record listed in Paragraph 1.

5. Any student may, upon request, review his or her records and, if inaccurate information is included, may request the expunging of such information from the file. Such inaccurate information will then be expunged upon authorization of the official responsible for the file.
6. Students desiring to challenge the content of their record may request an opportunity for a hearing to challenge the content of the educational record in order to ensure that the record is not inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student, to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein, and to insert into such records a written explanation respecting the content of such records.
7. The university official charged with custody of the records will attempt to settle informally any disputes with any student regarding the content of the university's educational records through informal meetings and discussions with the student.
8. Upon request of the student or the university official charged with custody of the records of the student, a formal hearing shall be conducted as follows:
- The request for a hearing shall be submitted in writing to the campus chancellor who will appoint a hearing officer or a hearing committee to conduct the hearing.
 - The hearing shall be conducted and decided within a reasonable period of time following the request for a hearing. The parties will be entitled to written notice 10 days prior to the time and place of the hearing.
 - The hearing shall be conducted and the decision rendered by an appointed hearing official or officials who shall not have a direct interest in the outcome of the hearing.
 - The student shall be afforded a full and fair opportunity to present evidence relevant to the hearing.
 - The decision shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.
 - Either party may appeal the decision of the hearing official or officials to the campus chancellor. Appeal from the Chancellor's decision is to the President. Appeal from the President is to the Board of Curators.
9. The University of Missouri-St. Louis will not mail grade reports to parents unless the student in question has completed the necessary authorization in the registrar's office.
10. The University of Missouri-St. Louis may permit access to or release of the educational records without the written consent of the student to the parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1954.
11. If any material or document in the educational record of a student includes information on more than one student, the student may inspect and review only such part

of such material or document as relates to him or her or to be informed of the specific information contained in such part of such material.

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

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

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

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

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

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

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

Student Financial Aid Programs

The University of Missouri-St. Louis maintains an Office of Student Financial Aid to assist students with the cost of their education. Financial assistance is available in the form of grants, loans, scholarships, and work-study. Funds for these programs are available from federal, private, state, and institutional resources. To apply for financial aid, students must complete a Free Application for Federal Student Aid (FAFSA). Preference will be given to those students who have completed the FAFSA by April 1. Preference means that the Student Financial Aid Office

will begin awarding FWS (Federal College Work-study), Federal SEOG (Federal Supplemental Educational Opportunity Grant) and Federal Perkins Loan funds. A completed financial aid application means that the Financial Aid Office has received an official Student Aid Report from the Federal Processing Center.

The Student Financial Aid Office maintains a Web site at www.umsl.edu/services/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.

Undergraduate Study

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

Admission and Application Procedures

Admission for First-Time Freshmen

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

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

Undergraduate Application for Admission.

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

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

High School Transcript and Class Rank. Transcript must be sent directly from the high school to the UM-St. Louis Office of Admissions. Transcript should indicate

class rank and all courses satisfactorily completed. ACT or SAT test scores may also be submitted via this transcript.

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

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

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

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

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

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

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

ACT (Verbal, Math)	SAT Total Percentile Rank	High School Class Rank
23	1050-1090	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. For additional information regarding admission requirements, contact the Office of Admissions at (314) 516-5451.

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

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

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

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

Dual Credit. Accredited programs such as the Advanced Credit Program at the University of Missouri-St. Louis enable qualified high school juniors and seniors the opportunity to earn college credits while completing high school. General education courses are offered through the

University in the College of Arts and Sciences and through the College of Fine Arts and Communication. Information about the transferability of credits from dual credit courses is available from the Office of Admissions, and further information about the Advanced Credit Program may be obtained by calling (314) 516-7005.

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

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

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

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

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

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

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

Admission for Transfer Students

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

Students transferring from other colleges and universities must submit the following information to the Director of Admissions:

- Undergraduate Application for Admission
- A \$25 application fee
- High school transcript, or GED if the applicant has less than 24 hours of college-level course work or the applicant is pursuing a degree or certification in Education.
- Official transcripts from all colleges/universities attended. Hand carried credentials are not accepted.

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

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

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

Missouri State Transfer Agreement

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

The math proficiency requirements at UM-St. Louis that students must satisfy are not part of the general requirements covered by the CBHE requirement.

Transfer Credit. According to the articulation agreement among public institutions within the state of Missouri, the following guidelines will govern transfer of credit to UM-St. Louis from colleges and universities within the state of Missouri. These guidelines also apply to students transferring to UM-St. Louis from schools located outside Missouri. Advanced standing in the form of credit hours may be allowed for work satisfactorily completed in another college or university of recognized standing, public or private, located in the state of Missouri, as long as the work satisfies the requirements of the university division in which the student registers.

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

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

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

Associate Degree Transfers from Community Colleges. A student admitted to the university and holding an associate degree oriented toward the baccalaureate degree will be accepted in junior standing. Students fulfilling the general education requirements outlined by the Missouri Coordinating Board of Higher Education and certified by the sending institution will have met the lower division general education requirements at UM-St. Louis. However, this does not exempt the student from meeting specialized

lower-division degree requirements of specific departments. Courses completed in the associate degree program are evaluated for application to specific degree requirements by the same criteria used for transfer students from other colleges and universities. Credit earned in or transferred from a community college shall normally be limited to approximately half the baccalaureate degree program requirement.

Transfers without an Associate Degree

Transfer applicants who do not have an associate degree will have their transcripts evaluated on a course-by-course basis. Students who have fulfilled the general education requirements outlined by CBHE and certified by sending institution will meet the university's general education requirements.

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

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

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

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

Students from Other Countries. Prospective students living outside the United States and its possessions should write to the Office of International Student Services at the address below at least one year before the date of desired admission for information about application to the university. Students will be expected to supply official original secondary and college/university transcripts from all schools attended as well as other official original documents. International students must also pay a \$40 application fee. All students should make arrangements to take the TOEFL well in advance of their admission date.

Since 1998, all students in F-1 and J-1 status have been required to purchase an inexpensive insurance policy with coverage for illness and accidents, billed directly to the students' accounts. For details contact:

Office of International Student Services
University of Missouri-St. Louis
304 SSB
8001 Natural Bridge Road
St. Louis, MO 63121-4499

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

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

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

Registration

New Students

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

Former Students

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

Currently Enrolled Students

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

Auditor

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

Auditors are charged full fees and receive no academic credit.

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

UM-St. Louis Express

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

Registration Cancellation

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

Enrollment and Academic Advising

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

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

College of Arts and Sciences

All incoming undergraduate students are required to be advised in the University Advising Center in the Millennium Student Center. Students who have declared majors are encouraged to contact their major departments as soon as possible.

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

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

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

College of Business Administration

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

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

Transfer students who have been admitted to the College of Business Administration should contact the advising office and plan to meet with an adviser early in the semester for an evaluation of transfer credit and the planning of their degree programs.

All students are urged to make advising appointments early during each semester, prior to registration dates, to obtain approval of schedules for upcoming semesters. Advising is a continuous and ongoing process. For information, call (314) 516-5888.

College of Education

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

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

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

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

College of Fine Arts and Communication

The College of Fine Arts and Communication includes the Department of Art and Art History, Communication, Music and Theatre and Dance. These four departments offer eight degrees, both graduate and undergraduate. The College also serves students with interests in pre-architecture. The College of Fine Arts and Communication is further distinguished by its collaboration with the community. Endowed professorships link the University to the Saint Louis Symphony, The St. Louis Art Museum, Opera Theatre of St. Louis, and the Laumeier Sculpture Park to name a few.

Students and prospective students are encouraged to contact the department advising coordinators for the program of individual study. Students who maintain a relationship with their department have greater opportunities to meet other students with similar interests as well as optimize their student experience.

Barnes College of Nursing and Health Studies

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

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

Pierre Laclède Honors College

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

Other Considerations

Assessment

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

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

Students who do not comply will not be allowed to graduate. As alumni, graduates are encouraged to

participate in assessment by completing questionnaires sent to them by the university.

Academic Residence

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

Graduation

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

Course Schedules

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

Fall semester schedule: preceding March.

Winter semester schedule: preceding October.

Summer session schedule: preceding March.

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

General Education Requirements

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

The University of Missouri-St. Louis General Education Program was approved by the Faculty Senate April 23, 2002. This program affords both native and transfer students attending our university the opportunity to develop and use intellectual tools and to acquire a breadth 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)

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

SKILL GOALS:

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

KNOWLEDGE GOALS:

4. **Social and Behavioral Sciences Knowledge Goal** (min. 3 three-hour courses or 9 hours minimum) [SS]
5. **Humanities and Fine Arts Knowledge Goal** (min. 3 three-hour courses or 9 hours minimum) [H]
6. **Mathematics and Life/Natural Sciences** (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. (Honors students should check with Honors College each semester for list of Gen. Ed. Courses that meets this requirement)**

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

ALL COURSES ARE THREE-HOUR COURSES UNLESS OTHERWISE NOTED.

GOALS:

SKILL GOALS:

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

KNOWLEDGE GOALS:

4. **SOCIAL AND BEHAVIORAL SCIENCES** (min. 3 three-hour courses or 9 hr)
5. **HUMANITIES AND FINE ARTS** (min. 3 three-hour courses or 9 hrs)
6. **MATHEMATICS AND LIFE/NATURAL SCIENCES** (min. 4 three-hour courses or 12 hrs)

GOAL # 1 COMMUNICATING SKILLS

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

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

*comprehensive coverage of skill goal

** satisfied cultural diversity requirement

***satisfies state government requirement

Department, Course #	Course Title	Additional Goal(s) of the Course (Set goal key above)
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English 010(1100) or	Freshman Composition	2*
English 011(1110) or	Freshman Composition for International Students	2*
Honors 010(1200)	Freshman Composition for Honors Students	*

Select a minimum of one course:

Communication 030(1030)	Interpersonal Communication I	*
Communication 040(1040)	Introduction to Public Speaking	*
Communication 050(1050)	Introduction to Mass Media	4
Biology 110(1811)	Human Biology	6
Chemistry 122(2223)	Quantitative Analysis	6,2
Chemistry 263(2633) (2 hrs)	Organic Chemistry Laboratory	6,2
English 103(2030)	Poetry Writing	5
English 104(2040)	Short Story Writing	5
English 105(2050)	Play Writing	5
English 112(2120)	Topics in Writing	5
English 012(1120)	Literary Types	5, 3
English 120(2200)	Classical Literature in Translation	5, 3
English 122(2810)	Traditional Grammar	*
English 123(2230)	Jewish Literature	5
English 124(2240)	Literature of the New Testament	5
English 125(2250)	Literature of the Old Testament	5
English 131(2310)	English Literature I	5
English 132(2320)	English Literature II	5
English 133(2330)	Introduction to Poetry	5
English 135(2350)	Introduction to Fiction	5
English 013(1130)	Topics in Literature	5
English 017(1170)	American Literary Masterpieces	5
English 171(2710)	American Literature I	5
English 172(2720)	American Literature II	5
English 020(1200)	Myth	5, 3
English 070(1700)	African-American Literature	5
English 071(1710)	Native American Literature	5**
French 170(2170)	French Composition and Conversation	5
French 180(2180)	Readings in French	5**
German 170(2170)	German Composition and Conversation	5
German 180(2180)	Readings in German	5**
History 003(1030)	American Civilization to 1865	4***
History 004(1002)	American Civilization 1865 to Present	4***
History 007(1004)	The History of Women in the United States	4***

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

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

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goal(s) of the Course</u>
Computer Science 101(1010)	Introduction to Computers (credit not granted for both CS 101(1010) and BA 103(1800))	*
Bus. Ad. 103(1800)	Computers and Information Systems (credit not granted for both BA 103(1800) and CS 101(1010))	*
Anthropology 019(1019)	Introduction to Archaeology	4**
Anthropology 033(1033)	World Archaeology	4**
Astronomy 001(1001)(4 hrs)	Cosmic Evolution/Introductory Astronomy	6
Atmospheric Sci.001(1001)(4 hr)	Elementary Meteorology	6
Biology 011(1811)(5 hrs)	Introduction to Biology I	6
Biology 012(1821) (5 hrs)	Introduction to Biology II	6
Biology 120(1202)	Environmental Biology	6,3
Chemistry 001(1082)	General Chemistry	6
Chemistry 010(1011)	Chemistry in the Environment and Everyday Living	6
Chemistry 012(1121) (5 hr(s)	Introductory Chemistry II	6
Chemistry 122(2223)	Quantitative Analysis	6,1
Chemistry 241(2412) (2 hrs)	Basic Inorganic Chemistry	6
Chemistry 262(2622)	Organic Chemistry II	6
Chemistry 263(2633) (2 hrs)	Organic Chemistry Laboratory	6,1
Chemistry 005(1052) (4 hrs)	Chemistry for the Health Professions	6
Chemistry 006(1062) (2 hrs)	Organic and Biochemistry for Health Professions	6
Chemistry 009(1091)	General Chemistry II	6

Crim & C J 020(1200)	Foundations of Law (Pol.Sci. 020(1200)	4,3
Crim & C J 099(1990)	The City (Pol.Sci. 099(1990), Soc. 099(1999)	4,3
Economics 205(2800)	History of American Economic Development	4
Economics 262(2410)	The Economics of Women, Men and Work	4
English 010(1100)	Freshman Composition	1
English 011(1110)	Freshman Composition for International Students	1
Geography 101(1001)	Introduction to Geography	4
Geology 001(1001) (4 hr)	General Geology	6
Geology 002(1002) (4 hr)	Historical Geology	6
Honors 131(1310)	Non-Western Traditions	5**
Honors 020(1200)	Freshman Symposium	4
Physics 011(1011)(4 hrs)	Basic Physics I	6
Physics 012(1012) (4 hrs)	Basic Physics II	6
Physics 111(2111) (5 hrs)	Physics: Mechanics and Heat	6
Physics 112(2112) (5 hrs)	Physics: Electricity, Magnetism and Optics	6
Political Science 012(1500)	Introduction to Comparative Politics	4,3
Political Science 020(1200)	Foundations of Law (CCJ 20(1200)	4,3
Political Science 045(1450)	Introduction to Labor Studies	4
Political Science 080(1820)	Global Issues	4
Political Science 099(1990)	The City (CCJ 099, Soc. 099(1999)	4,3
Political Science 015(1550)	Women and Politics in the Developing World	4,3
Sociology 099(1999)	The City (CCJ 99, Pol. Sci. 99(1990)	4,3

GOAL # 3 VALUING SKILL

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

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

**satisfies cultural diversity requirement

***satisfies state government requirement

Department, Course #	Course Title	Additional Goal(s) of the Course
Anthropology 011(1011)	Introduction to Cultural Anthropology	4**
Anthropology 025(1025)	World Cultures	4**
Biology 120(1202)	Environmental Biology	6,2
Biology 130(1081)	Global Ecology (Pol. Sci. 085(1850)	6,4
Crim & C J 020(1200)	Foundations of Law (Pol. Sci. 020(1200)	4,2
Crim & C J 099(1990)	The City (Pol. Sci. 099(1990), Soc. 099(1999)	4,2
Economics 40(1000)	Introduction to the American Economy	4
Economics 51(1001)	Principles of Microeconomics	4
Economics 110(2610)	The Economics of Professional Sports	4
Economics 207(2010)	The Business Firm: History, Theory and Policy	4
English 012(1120)	Literary Types	5,1
English 120(2200)	Classical Literature in Translation	5,1
English 128(2280)	The Contemporary World in Literature	5**
English 134(2340)	Introduction to Drama	5
English 020(1200)	Myth	5,1
History 006(1003)	African-American History	4***
Honors 123(1230)	American Traditions	4***
Honors 133(1330)	Non-Western Traditions—Social Sciences	4,1
Music History 001(5990)	Introduction to Music	5
Music History 009(1080)	Non-Western Music	5**
Philosophy 010(1110)	Western Philosophy I	5
Philosophy 011(1111)	Western Philosophy II	5

Philosophy 120(1120)	Asian Philosophy	5**
Philosophy 125(1125)	Islamic Philosophy	5**
Philosophy 152(2252)	Philosophical Foundations of Criminal Justice	5
Philosophy 153(2253)	Philosophy and Feminism	5
Philosophy 154(2254)	Business Ethics	5
Philosophy 156(2256)	Bioethics	5
Philosophy 158(2258)	Medicine, Values and Society	5
Philosophy 180(2280)	Minds, Brains and Machines	5
Philosophy 030(1130)	Approaches to Ethics	5
Philosophy 050(1150)	Major Questions in Philosophy	5
Philosophy 060(1160)	Logic and Language	5
Philosophy 085(1185)	Philosophy of Religion	5
Philosophy 090(1090)	The Humanities through the Arts	5
Philosophy 091(1091)	Telecourse: Significant Figures in Philosophy	5
Political Science 011(1100)	Introduction to American Politics	4***
Political Science 012(1500)	Introduction to Comparative Politics	4,2
Political Science 020(1200)	Foundations of Law (CCJ 020(1200))	4,2
Political Science 085(1850)	Global Ecology (Bio. 130(1081))	4,6
Political Science 099(1990)	The City (CCJ 099, Soc. 099(1999))	4,2
Political Science 015(1550)	Women and Politics in the Developing World	4,2
Sociology 010(1010)	Introduction to Sociology	4
Sociology 099(1999)	The City (Pol. Sci. 099(1990), CCJ 099)	4,2
Sociology 040(1040)	Social Problems	4

GOAL # 4 SOCIAL AND BEHAVIORAL SCIENCES KNOWLEDGE

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

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

**satisfies cultural diversity requirement

***satisfies government requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goals of the Course</u>
Anthropology 011(1011)	Introduction to Cultural Anthropology	3**
Anthropology 019(1019)	Introduction to Archaeology	2**
Anthropology 025(1025)	World Cultures	3**
Anthropology 033(1033)	World Archaeology	2**
Biology 130(1081)	Global Ecology (Pol. Sci. 085(1850))	6,3
Communication 050(1050)	Introduction to Mass Media	1
Crim & C J 020(1200)	Foundations of Law (Pol. Sci. 020(1200))	2,3
Crim & C J 099(1990)	The City (Pol. Sci. 099(1990), Soc. 099(1999))	2,3
Economics 040(1000)	Introduction to the American Economy	3
Economics 051(1001)	Principles of Microeconomics	3
Economics 052(1002)	Principles of Macroeconomics	
Economics 110(2610)	The Economics of Professional Sports	3
Economics 205(2800)	History of American Economic Development	2
Economics 207(2010)	The Business Firm: History, Theory and Policy	3
Economics 262(2410)	The Economics of Women, Men and Work	2
Geography 101(1001)	Introduction to Geography	2
History 003(1001)	American Civilization to 1865	1***
History 004(1002)	American Civilization 1865-Present	1***
History 006(1003)	African-American History	3***
History 007(1004)	The History of Women in the United States	1***

History 030(1030)	The Ancient World	1
History 031(1031)	Topics in European Civilization to 1715	1
History 032(1032)	Topics in European Civilization since 1715	1
History 061(1041)	East Asian Civilization to 1800	**
History 062(1042)	East Asian Civilization from 1800	**
History 071(1051)	Latin American Civilization	1**
History 072(1052)	Mexican Civilization	1**
History 081(1061)	African Civilization	1**
History 082(1062)	African Civilization	1**
History 083(1063)	African Diaspora	1**
History 084(1064)	African Diaspora	1**
Honors 020(1200)	Freshman Symposium	2
Honors 113(1130)	Western Traditions--Social Science	1
Honors 123(1230)	American Traditions	3***
Honors 203(2030)	Honors Inquiries in Social and Behavioral Sciences	1
Honors 133(1330)	Non-Western Traditions--Social Science	1,3
Political Science 011(1100)	Introduction to American Politics	3***
Political Science 012(1500)	Introduction to Comparative Politics	2,3
Political Science 015(1550)	Women and Politics in the Developing World	2,3
Political Science 020(1200)	Foundations of Law (CCJ 20(1200), Soc. 20)	2,3
Political Science 045	Introduction to Labor Studies	2
Political Science 080(1820)	Global Issues	2
Political Science 085(1850)	Global Ecology (Bio. 130(1081))	6,3
Political Science 099(1990)	The City (CCJ 099, Soc. 099(1999))	2,3
Political Science 015(1550)	Women and Politics in the Developing World	2,3
Psychology 003(1003)	General Psychology	
Psychology 268(1268)	Human Growth and Behavior	
Sociology 010(1010)	Introduction to Sociology	3
Sociology 099(1999)	The City (CCJ 099, Pol. Sci. 099(1990))	2,3
Sociology 040(1040)	Social Problems	3

GOAL # 5 HUMANITIES AND FINE ARTS KNOWLEDGE

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

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

**satisfies cultural diversity requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goals of the Course</u>
Art History 111(2211)	Art and Archeology of the Ancient World	
Art History 117(1105)	African Art	**
Art History 135(2235)	European Art and Architecture 1300-1800	
Art History 155(2255)	Modern Art	
Art History 005(1100)	Introduction to Art	
Art History 008(1108)	Introduction to Asian Art	**
English 103(2030)	Poetry Writing	1
English 104(2040)	Short Story Writing	1
English 105(2050)	Play Writing	1
English 112(2120)	Topics in Writing	1
English 012(1120)	Literary Types	1,3
English 120(2200)	Classical Literature in Translation	1,3
English 123(2230)	Jewish Literature	1
English 124(2240)	Literature of the New Testament	1

English 125(2250)	Literature of the Old Testament	1
English 128(2280)	The Contemporary World in Literature	3**
English 013(1130)	Topics in Literature	1
English 131(2310)	English Literature I	1
English 132(2320)	English Literature II	1
English 133(2330)	Introduction to Poetry	1
English 134(2340)	Introduction to Drama	3
English 135(2350)	Introduction to Fiction	1
English 017(1170)	American Literary Masterpieces	1
English 171(2710)	American Literature I	1
English 172(2720)	American Literature II	1
English 020(1200)	Myth	1,3
English 070(1700)	African-American Literature	1
English 071(1710)	Native American Literature	1**
French 170(2170)	French Conversation and Composition	1
French 180(2180)	Readings in French	1**
German 170(2170)	German Conversation and Composition	1
German 180(2180)	Readings in German	1**
Honors 131(1310)	Non-Western Traditions in Humanities	2**
Honors 030(1300)	Critical Analysis	1
Honors 111(1110)	Western Traditions	1
Honors 121 (1210)	American Traditions in Humanities	1
Honors 201(2010)	Inquiries in the Humanities	1
Honors 202(2020)	Inquiries in the Fine and Performing Arts	1
Music History 001(5990)	Introduction to Music	3
Music History 006(1002)	Introduction to African-American Music	
Music History 007(1060)	Introduction to Jazz History	
Music History 009(1080)	Non-Western Music	3**
Philosophy 010(1110)	Western Philosophy I	3
Philosophy 011(1111)	Western Philosophy II	3
Philosophy 120(1120)	Asian Philosophy	3**
Philosophy 125(1125)	Islamic Philosophy	3**
Philosophy 152(2252)	Philosophical Foundations in Criminal Justice	3
Philosophy 153(2253)	Philosophy and Feminism	3
Philosophy 154(2254)	Business Ethics	3
Philosophy 156(2256)	Bioethics	3
Philosophy 158(2258)	Medicine, Values and Society	3
Philosophy 180(2280)	Minds, Brains and Machines	3
Philosophy 030(1130)	Approaches to Ethics	3
Philosophy 050(1150)	Major Questions in Philosophy	3
Philosophy 060(1160)	Logic and Language	3
Philosophy 085(1185)	Philosophy of Religion	3
Philosophy 090(1090)	The Humanities through the Arts	3
Philosophy 091(1091)	Telecourse: Significant Figures in Philosophy	3
Spanish 171(2171)	Spanish Conversation and Pronunciation	1
Spanish 172 (2172)	Spanish Composition	1
Spanish 180(2180)	Readings in Spanish	1**
Theatre 021(1210)	Fundamentals of Acting	1
Theatre 080(1800)	Introduction to Theatre	1

GOAL # 6 MATHEMATICS AND LIFE/NATURAL SCIENCES KNOWLEDGE

The Mathematics and Life/Natural Sciences Knowledge Goal develops students' abilities in the areas of mathematics and sciences. In mathematics, the goal develops the students' understanding of fundamental mathematical concepts and their applications. Students should develop a level of quantitative literacy that would enable them to make decisions and solve problems and which could serve as a basis for continued learning. To meet this goal, students must have one mathematics course that has the same prerequisite(s) and level of rigor as college algebra. In the life and natural sciences, this goal develops the students' understanding of the principles and laboratory procedures of life and physical sciences and to cultivate their abilities to apply the empirical methods of scientific inquiry. Students should understand how scientific discovery changes theoretical views of the world, informs our imaginations, and shapes

human history. Students should also understand that science is shaped by historical and social contexts (CBHE General Education, June 2000).

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

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

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goal(s) of the Course</u>
Mathematics 020(1020)	Contemporary Mathematics	
Mathematics 030 (1030)	College Algebra	
Mathematics 035(1035) (2 hrs)	Trigonometry	
Mathematics 080(1800) (5 hrs)	Analytic Geometry and Calculus I	
Mathematics 100(1100)	Basic Calculus	
Mathematics 105 (1105)	Basic Probability and Statistics	
Honors 204(2040)	Inquiries in Math and Computer Science	
Astronomy 001(1001)(4 hrs)	Cosmic Evolution/Introductory Astronomy	2
Astronomy 011(1011)	Planets and Life in the Universe	
Astronomy 012(1012)	The Violent Universe and the New Astronomy	
Astronomy 022(1022) (2 hrs)	Practical Astronomy	
Astronomy 050(1050)	Introduction to Astronomy I	
Astronomy 051(1051)	Introduction to Astronomy II	
Astronomy 121(1121)	The Search for Extraterrestrial Life	
Atmospheric Sci.001(1001)(4 hrs)	Elementary Meteorology	2
Biology 001(1012)	General Biology	
Biology 003(1013) (2 hrs)	General Biology Laboratory	
Biology 011(1811) (5 hrs)	Introductory Biology I	2
Biology 012(1821) (5 hrs)	Introductory Biology II	2
Biology 110(1102)	Human Biology	1
Biology 113 (1131)	Human Anatomy and Physiology I	
Biology 114 (1141)	Human Anatomy and Physiology II	
Biology 116 (1162)	General Microbiology	
Biology 120(1202)	Environmental Biology	2,3
Biology 130(1081)	Global Ecology (Pol. Sci. 85(1850))	4,3
Chemistry 001(1082)	General Chemistry I	2
Chemistry 005(1052) (4 hrs)	Chemistry for Health Professions	2
Chemistry 006(1062) (2 hrs)	Organic and Biochemistry for Health Professions	2
Chemistry 009(1091)	General Chemistry II	
Chemistry 010(1011)	Chemistry in the Environment and Everyday Living	2
Chemistry 011(1111) (5 hrs)	Introductory Chemistry I	2
Chemistry 012(1121) (5 hrs)	Introductory Chemistry II	2
Chemistry 122(2223)	Quantitative Analysis	1,2
Chemistry 241(2412) (2 hrs)	Basic Inorganic Chemistry	2
Chemistry 261(2612)	Organic Chemistry	
Chemistry 262(2622)	Organic Chemistry II	2
Chemistry 263(2633) (2 hrs)	Organic Chemistry Laboratory	
Geology 001(1001) (4 hrs)	General Geology	2
Geology 002(1002) (4 hrs)	Historical Geology	2
Honors 205(2050)	Inquiries in the Natural Sciences	1
Physics 001(1001)	How Things Work	
Physics 011(1011) (4 hrs)	Basic Physics I	2
Physics 012(1012) (4 hrs)	Basic Physics II	2
Physics 111(2111)(5 hrs)	Physics: Mechanics and Heat	2
Physics 112(2112) (5 hrs)	Physics: Electricity, Magnetism and Optics	2

Credit Hours

All candidates for baccalaureate degrees must complete a minimum of 120 semester hours. At least 45 of these hours must be courses numbered 100 or above (or comparable courses transferred). Students must maintain a minimum 2.0 grade point average overall, as well as in their area of specialization. Students seeking two degrees must meet all degree and residency requirements of each degree.

Other Requirements

Mathematical Skills:

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

OR

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

Advanced Expository Writing

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

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

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

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

Hist 302(3002), United States History: Revolution and the New Nation, 1763 to 1815

Hist 311(3041), Topics in American Constitutional History

PolSci 11(1100), Introduction to American Politics

PolSci 129(2290), Women and the Law

PolSci 130(2300), State Politics

PolSci 135(2350), Introduction to Urban Politics

PolSci 140(2400), Public Administration

PolSci 226(2260), Law and the Individual

PolSci 228(2280), Judicial Politics, Process and Policy

PolSci 230(3300), The American Presidency

PolSci 231(3331), Congressional Politics

PolSci 232(2320), African-Americans and the Political System

PolSci 233(3330), Introduction to Political Behavior

PolSci 235(3350), Political Parties and Elections

PolSci 238(2380), Women in U. S. Politics

PolSci 240(3400), Bureaucratic Politics

PolSci 242(2420), Introduction to Public Policy

PolSci 245(3450), Urban Administration

PolSci 320(3200), Constitutional Law

PolSci 321(3210), Civil Liberties

PolSci 326(3260), Judicial Decision Making

PolSci 333(3370), Mock Constitutional Convention

PolSci 346(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 11(1011), Introduction to Cultural Anthropology
- Anth 19(1019), Introduction to Archaeology
- Anth 21(1021), The Body in Culture
- Anth 25(1025), World Cultures
- Anth 29(1029), Cultural Diversity through Literature
- Anth 33(1033), World Archaeology
- Anth 41(1041), Sex and Gender Across Cultures
- Anth 71(1171), Native American Literature
- Anth 91(1091), Introductory Topics in Anthropology
- Anth 110(2110), Cultures of Asia
- Anth 111(2111), Cultures of East Asia
- Anth 113(2113), Cultures of South Asia
- Anth 114(2114), Cultures of the Near and Middle East
- Anth 120(2120), Native Peoples of North America
- Anth 123(2123), Cultures of Oceania
- Anth 124(2124), Cultures of Africa
- Anth 131(2131), Archaeology of Missouri
- Anth 132(2132), Archaeology of North America
- Anth 134(2134), Archaeology of the Inca, Aztec, and Maya

Anth 135(2135), Old World Archeology
 Anth 136(2136), Archaeology of East Asia
 Anth 137(2137), Archaeology of Africa
 Anth 138(2138), African-American Archaeology
 Anth 173(2173), Archaeology and Cultures of the Biblical World
 Anth 191(2191), Special Topics in Non-Western Cultures
 Anth 225(3225), Topics in Tribal Arts
 Anth 235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective
 Anth 238(3238), Culture and Business in East Asia
 Anth 428(5428), Culture and Business in East Asia
 Art 8(1108), Introduction to Asian Art
 Art 15(1102), Art of Africa, Oceania, and the Americas
 Art 107(1109), The Arts of China
 Art 108(1110), The Arts of Japan
 Art 116(1104), North American Indian Art
 Art 117(1105), African Art
 Art 119(1103), Pre-Columbian Art of Mexico and Central America
 Art 208(4408), Topics in Asian Art
 Art 215(4402), Topics in Tribal Arts
 Art 217(4405), Topics in African Art
 English 71(1710), Native American Literature
 English 128(2280), The Contemporary World in Literature
 History 61(1041), East Asian Civilization
 History 62(1042), East Asian Civilization
 History 71(1051), Latin American Civilization
 History 72(1052), Mexican Civilization
 History 81(1061), African Civilization To 1800
 History 82(1062), African Civilization Since 1800
 History 83(1063), The African Diaspora to 1800
 History 84(1064), The African Diaspora since 1800
 History 201(3032), History of Women in Comparative Cultures
 History 262(3103), Modern History of the Pacific Rim
 History 361(3101), Modern Japan: 1850 to the present
 History 362(3102), Modern China: 1800 to the Present
 History 371(3201), History of Latin America: To 1808
 History 372(3202), History of Latin America since 1808
 History 380(3301), West Africa to 1800
 History 381(3302), West Africa Since 1800
 History 385(3303), African Diaspora to 1800
 History 386(3304), African Diaspora Since 1800
 Music 9(1080), Non-Western Music I
 Music 10(1090), Non-Western Music II
 Phil 120(1120), Asian Philosophy
 Phil 125(1125), Islamic Philosophy
 PolSci 155(2550), East Asian Politics
 PolSci 253(2530), Political Systems of South America
 PolSci 254(2540), Political Systems of Mexico, Central America, and the Caribbean
 PolSci 258(2580), African Politics
 PolSci 289(2520), Middle Eastern Politics
 Soc 245(3245), Sociology of South Africa

Business Education Courses

The following courses are approved for degree credit only in the business education degree program and in the

Bachelor of General Studies degree program with the dean's approval:

- Sec Ed 162(2162), Computer Keyboarding and Formatting
- Sec Ed 362(4362), Shorthand/Alpha Systems: Theory and Application

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.

Video Instructional Program

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

Academic Policies

Course Numbering

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

To assist in understanding the course level, refer to the following guidelines:

- 1-99(0001-0999) course is not awarded credit towards a baccalaureate degree.
- 100-199(1000- 1999) course is primarily for freshmen, but may be taken by sophomores, juniors and/or seniors
- 200-299(2000 -2999) course is primarily for sophomores, but may be taken by juniors and/or seniors. Can not be taken for graduate credit
- 300-399(3000- 3999) course is open to junior and senior students.
- 400-499(4000-4999) course is open to senior and/or graduate students (so long as a graduate program provides for the inclusion of a designated number of undergraduate hours.)
- 500-599(5000 -5999), course open to graduate students and undergraduate students with permission.
- 600-699(6000-6999) course open to graduate students only.
- 700-799(7000-7999) course open to graduate students in doctoral programs.
- 800-899(8000-8999) course open to students in the College of Optometry.

Credit Hours

The university credit unit is the semester hour, which represents a subject pursued one period weekly for one semester of approximately 16 weeks or for a total of approximately 16 periods for one term. Generally, a course valued at 3 semester hours meets for three periods weekly for one semester, a 2-credit course two periods a week for a semester, and so on. Normally, the lecture or recitation period is 50 minutes long and the laboratory period one hour and 50 minutes.

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

Grading System

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

A = 4.0	A- = 3.7	B+ = 3.3
B+ = 3.3	B = 3.0	B- = 2.7
C+ = 2.3	C = 2.0	C- = 1.7
D+ = 1.3	D = 1.0	D- = 0.7
F = 0		

EX = Excused

DL = Delayed

Y = No basis for a grade

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

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

To access your grades through the My Gateway system, you must know your Gateway ID and password. You can look up your Gateway ID online at:

<http://gatewayid.umsl.edu>. Call the Technology Support Center at (314) 516-6034 if you have any questions about your Gateway ID or password.

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

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

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

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

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

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

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

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

Students register for courses in the normal manner and may exercise the satisfactory/unsatisfactory option before the end of the first four weeks of a regular semester (or the first two weeks of a summer session). Requests for this option are made through the proper dean's office.

Instructors are not informed of students taking courses on a satisfactory/unsatisfactory basis.

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

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

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

Transcripts

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

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

Enrollment Policies

Prerequisites for a Course

A minimum grade of C- is required to meet the prerequisite requirements of any course, except with the permission of the department in which the second course is taught. An "academic standing" prerequisite stated by class--for example, "senior standing"-- means senior-class standing. Requirements for class standing vary. Students should determine the requirements for their school or

college. Individual course restrictions are specified in the individual course descriptions.

Course Load

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

Attendance

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

Dropping/Adding Courses

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

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

Section Changing

Section changing is normally done during the first week of a regular semester and the first three days of a summer session. No approvals need be received during this time. However, after the first week of a regular semester and the first three days of a summer session, a section change form

must be obtained from the departmental or dean's office. The signatures of both instructors (of both sections) are required. The form is to be submitted to the Registration Office, 269 Millennium Student Center.

Change of Major

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

Withdrawal after Classes Begin

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

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

Academic Probation, Suspension, and Dismissal

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

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

Students who have once been suspended may be dismissed if they again become subject to suspension. Students placed on probation because of poor scholastic records at other institutions are regarded as having been once suspended under these rules. Normally, students who have

been dismissed are not considered for readmission. In certain unusual cases, students may be readmitted on probationary status after one year.

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

Academic Dishonesty

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

Honor Societies

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

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

Psi Chi (Psychology)
Sigma Delta Pi (Spanish)
Sigma Iota Rho (International Studies)
Sigma Tau Delta (English)
Sigma Theta Tau (Nursing)

Dean's List

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

Who's Who Among Students in American Universities and Colleges

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

Latin Honors

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

Office of National Scholarship Information

The mission of the Office of National Scholarship Information (ONSI) at the University of Missouri-St. Louis is to provide campus wide access to merit-based scholarship information and opportunities. The most well-

known of these merit-based scholarships include the Rhodes, British Marshall, Truman, and Fulbright, although numerous other prestigious, and often unique, opportunities exist for outstanding students. For further information, contact the Honors College at (314) 516-5243

Fees for Undergraduate Study

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

Payment of Fees

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

The University reserves the right to modify by increase or decrease the fees charged for attendance and other services at the University, including but not limited to educational fees, at any time when in the discretion of the governing board the same is in the best interest of the University, provided that no increases can or will be effective unless approved by the governing board not less than 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.

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

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

Quick and Easy Ways To Pay Fees

- **By Mail** using the mail in coupon and envelope provided with your monthly statement.
- **Using STAR**, from a PC in your home, at work, or on-campus. Payment can be made by credit card only.
- **Using TRAIN**, from a touch-tone telephone. Payment can be made by credit card only.

- **In Person** at one of the service windows at the Cashier's Office.

Nonresident Student Fees

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

Metropolitan Fee Plan

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

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

Fee Reassessment for Dropping Classes or Withdrawal From School

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

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

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

Policy on Administrative Cancellation of Student Registration for Nonpayment of Educational Fees:

A registered student is required to remit payment of assessed fees by deadlines that are announced each semester. The University will cancel the registrations in all courses of students from whom the University has not

received and processed either the full payment or the required minimum payment (a stipulated portion of the balance due after deducting approved financial aid) for assessed fees by announced deadlines.

Policies and Procedures Related to Cancellation of Student Registration

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

Refund of Fees

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

Delinquent Indebtedness

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

Other Fees

Laboratory Breakage Fee

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

Room and Board

The university offers many different room and board plans. The average total cost for the residence hall is \$5,400 for a nine-month contract. For more information contact the

Office of Residential Life, Provencial House, Villa 101 at (314) 516-6877.

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

Student Insurance (optional)

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

Graduate Study

Admission and Application Procedure

The University of Missouri-St. Louis offers courses for graduate credit to qualified individuals to fulfill two kinds of student objectives:

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

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

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

Different departments have different application deadlines, some as early as January 1 for the fall semester. Applicants should check with Graduate Admissions for the deadline for the department to which they wish to apply. In general, completed applications should be filed with the Office of Graduate Admissions by July 1 for the fall semester, December 1 for the winter semester, and May 1 for the summer session. Applicants requesting financial aid should submit the application by March 15. The University of Missouri-St. Louis supports the Council of Graduate

Schools Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants This resolution defines the obligations of students and institutions regarding acceptance of support offers after April 15. Inquiries concerning Graduate School admission should be made as early as possible.

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

Application Fee

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

Admission of International Students

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

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

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

Admission Categories

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

- Matriculated Student
 - Regular
 - Restricted
 - Provisional
- Nonmatriculated Student
 - Nondegree
 - Education certification

Intercampus exchange
Postdoctoral

Matriculated Students

Students who wish to take courses to obtain a UM-St. Louis graduate certificate or degree must apply for status as a matriculated graduate student.

Regular Students

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

Restricted Students

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

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

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

Provisional Students

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

Nonmatriculated Students

Students who wish to take courses solely for personal or professional development should apply for status as nonmatriculated, nondegree graduate students. They must provide an official transcript showing completion of a baccalaureate or higher degree, with a GPA of 2.5 or greater, and they must generally meet the same requirements for admission as a matriculated student with

restricted status. They do not need to submit test scores or letters of recommendation. Change from nonmatriculant to matriculant requires submission of a new graduate admission application, and it occurs only upon subsequent recommendation by the graduate program and approval by the Graduate School.

Nondegree Students

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

Education Certification Students

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

Intercampus Exchange Students

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

Postdoctoral Students

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

Traveling Scholars and Interuniversity Graduate Exchange Students

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

arrangement through the registrar on the home campus for courses not offered on their own campus. Students are usually restricted to one exchange program course during their academic program.

Unclassified Students

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

Enrollment

Enrollment in Off-Campus and Continuing Education Courses

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

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

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

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

Undergraduate Enrollment in 5000-Level Courses

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

Enrollment in Relation to Admission

A student who has been admitted to the Graduate School may begin enrollment in any term of the following calendar year after admission. An approved application

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

Leave of Absence

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

Class Attendance

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

Preregistration

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

Maximum Course Load

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

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

Petitioning Into or Out of a Course

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

Entering a Course in Progress

Students wishing to enter a course in progress must have the approval of the instructor and their adviser. Only under

exceptional circumstances may students enter courses after the first week of the semester.

Dropping a Course

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

Transcripts

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

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

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

Academic Policy

Course Level

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

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

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

Institute and Workshop Courses

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

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

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

Foreign Language Requirement

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

Grades

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

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	

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

regulations of the Graduate School, grades lower than C- are recorded as F.

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

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

Grade Point Average (GPA) on a 4.0 Scale

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

Probation

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

Dismissal

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

Certificate Programs

Credit Requirements

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

Filing the Degree Program

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

Master's Degree Requirements

Credit Requirements

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

Filing for Degree Program

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

Thesis and Comprehensive Examinations

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

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

Dual Master's Degrees

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

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

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

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

Credit From a Certificate Program

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

Time Limitation

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

Residence Requirement

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

Continuous Enrollment

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

Degree Conferral

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

Doctoral Degree Requirements

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

Credit Requirements

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

Residence Requirement

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

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

Work completed as a post-master's degree student, prior to admission to a doctoral program, may be counted toward a doctoral degree, up to a maximum of 12 credit hours. Inclusion of such course work is subject to graduate program approval and must have been completed within eight years of the time the doctoral degree is awarded. Exceptions to this regulation must be justified on academically defensible grounds and must be approved by the graduate dean prior to filing the program.

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

Time Limitation

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

Comprehensive Examination

Each graduate program will determine the number of times a comprehensive examination may be taken by a student. The graduate program must file with the Graduate School a statement specifying (a) the number of times the graduate program will allow its students to take a comprehensive

examination and (b) the maximum and/or minimum period of time the department will allow between the first and final attempt to pass the comprehensive examination.

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

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

Application for Candidacy

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

Dissertation Proposal

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

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

Continuous Enrollment

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

Dissertation Committee

The Doctoral Dissertation Committee will consist of at least four members of the UM-St. Louis Graduate Faculty. Included in this number is the committee chair, who must be a member of the Doctoral Faculty. Also included in this

number is at least one person from outside the division, college, or school. The majority of members of the committee must be from the department in which the student is obtaining the degree.

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

Dissertation and Final Examination

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

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

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

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

Degree Conferral

Candidates for the doctoral degree are expected to attend Commencement.

Fees for Graduate Study

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

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

Nonresident Students

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

Final Semester Incidental Fee

Students must enroll in the semester in which they graduate.

Thesis and Dissertation Fee

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

Fees for Auditing Courses

Auditors are charged full fees and receive no academic credit.

Laboratory Breakage Fee

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

Room and Board

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

Student Insurance: International Students (required)

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

Student Insurance: (optional):

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

Payment of Fees

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

Policy on Administrative Cancellation of Student Registration for Nonpayment of Educational Fees:

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

Policies and Procedures Related to Cancellation of Student Registration

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

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

modification of fees to be effective irrespective as to whether fees have or have not been paid by or on behalf of a student prior to the effective date of the modification.

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

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

Quick and Easy Ways To Pay Fees.

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

Fee Assessment for Dropping Classes or Withdrawal

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

Financial Assistance

Teaching and Research Assistantships

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

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

Millennium Student Center

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

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

Food Services

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

Bookstore

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

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
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
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
Peter Monat, Reference Librarian
M.A., Saint Louis University; M.S., University of
Illinois-Urbana-Champaign
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
Frances Piesbergen, Reference
Librarian/Government Documents
M.A., University of Missouri-Columbia
James Rhodes, Manuscript Curator
M.A.L.S., University of Missouri-Columbia
Marilyn Rodgers, Reference Librarian
M.A., University of Missouri-Columbia
John Mark Scheu, Head, Collection Development
M. Phil., University of Kansas; M.S., University of Illinois
- Urbana-Champaign
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 various government offices to provide information on benefits, privileges, and responsibilities relating to Veteran Administration educational benefits. A certifying official is available to answer veterans' questions and process official paperwork.

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

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

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

Women's Center

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

Counseling Services

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

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

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

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

University Health Services

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

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

documentation verifying a disability that impairs mobility. Automobile information and license plate number are also necessary to obtain verification for handicapped parking.

Drug and Alcohol Prevention Program

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

Coordinator of Alcohol and Drug Prevention Programming, 211 Clark Hall, (314) 516-5414; Counseling Service, 126 Millennium Student Center (314) 516-3711; Student Health Center, 126 Millennium Student Center, (314) 516-5671; or the Office of Human Resources, 211 General Services Building, (314) 516-5804.

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

Institutional Safety

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

The police department an internationally accredited department is committed to professional management and to providing services in a manner that is responsive to community concerns. It pledges to be sensitive to the needs of those it serves.

The police department located in the TeleCommunity Center, serves the students, faculty, and staff by providing year-round campus security. The police are trained to give emergency aid in the event of accident or illness. All incidents should be reported immediately to the police department, telephone (314) 516-5155. A "911" phone number is available on all phones with a 516 prefix and should be used for emergencies only. These numbers are monitored 24 hours a day. Call for help or to report fire or any hazardous conditions. Emergency telephones on campus include the red AHot-Line phones, which are located in every building. In addition, there are a number

of outdoor emergency phones that connect directly to the police dispatcher.

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

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

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

Academic Resources

Center for Academic Development (CAD)

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

- **The Writing Lab** This lab offers tutorial assistance to students working on papers for their classes. No appointment is necessary, and tutors are prepared to help both undergraduate and graduate students in all the disciplines. Issues covered in the lab include organization, sentence clarity, development, grammar, and usage. The Writing Lab offers both IBM and Macintosh computers for student use, and tutors provide computer assistance. There is no charge for any Writing Lab service.
- **English-as-a-Second Language Program (ESL)** The center is the administrative home for the English as a Second Language Program. The program provides assessment and supplementary ESL courses for international students. Courses are listed under the Foreign Languages and Literatures Department.
- **Mathematics Lab** This lab offers individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or needing help with the mathematical skills required for a course in another discipline. The Math Lab contains a

small computer lab. Students or prospective students who are preparing to take the Mathematics Placement Test or C-Base Exam may come to the lab for help. Review materials for these two tests are available on general reserve in the Thomas Jefferson Library. Practice math placement exams are available at the University's home page under: math placement information/math practice tests.

- **Math Workshops.** The center provides assistance for students needing to improve their skills in mathematics. Zero-credit workshops covering Beginning and Intermediate Algebra are offered as a semester-long lecture class or as an independent study course with flexible beginning and ending options. Schedules for the workshops can be found in the current *Schedule of Courses*.
- **Assessment Center.** The center provides a controlled environment for students to take make-up exams or to test under conditions where special accommodations are needed and authorized. Students unable to take campus level exams (e.g. Math Placement, Academic Profile) in regularly scheduled group sessions may take them in the center for a fee. All testing is by appointment. Call (314) 516-6396.

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

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

Division of Student Affairs

Office of the Vice Chancellor for Student Affairs

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

Disability Access Services

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

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

Admissions

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

Registrar/Registration/Records

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

This office is responsible for registration, academic records, grades, transcripts, enrollment verification, veterans certification, change of name and/or address,

ordering diplomas, and many other enrollment-related services. No appointment is needed for service, and hours are convenient to both day and evening students.

Degree Audit

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

Student Financial Aid

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

Office of Residential Life

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

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

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

Office of Student Activities

E-Mail: studentactivities@umsl.edu. Web Page: <http://www.umsl.edu/services/stuactv>

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

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

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

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

Organizations. There are approximately 120 student organizations at UM-St. Louis ranging in size from 3 to 50 members. Their activities address the educational, cultural, social, recreational, and spiritual 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 15-student volunteer group, initiates and implements a variety of lectures, and appearances by comedians and musical groups throughout the year. The board also sponsors games, tournaments, and discounted tickets for local sporting events, concerts, and theater. Most campus events are free to the campus community and are subsidized by student activity fees. Membership in this organization is open to students who are interested in coordinating these types of programs. Information is available by calling (314) 516-5291 or by stopping by the Office of Student Activities in 366 Millennium Student Center.

Housing Referral. The Student Activities Office maintains a list of available apartments, rooms, and flats in the North County area. Lists of persons requesting roommates are also available.

Student Government

Student Association

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

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

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

Evening College Council

The Evening College Council serves the evening student body as a liaison between students, faculty, and administrators. It functions as a sounding board for Evening College students- ideas and interests, and it coordinates social activities of special interest to evening students. Membership is open to all Evening College students who are in good standing. Contact the Evening College, 2nd floor Millennium Student Center, at (314) 516-5162 or any council member for more information.

Faculty Senate and University Assembly

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

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

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, and weight lifting. For more information call (314) 516-5125.

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

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

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

Facilities

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

The facilities also include two conditioning and fitness rooms with state-of-the-art equipment, an indoor running track suitable for walking or running, and a sauna. Outdoor facilities include baseball, softball, soccer, intramural

fields, and tennis courts. For further information call (314) 516-5641.

Other Services

Alumni and Constituent Relations Office

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

Alumni Association

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

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

Career Services

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

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

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

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

Web HomePage. Provides general information about Career Services, upcoming Job Fairs, Career Days, and other special events, the on-campus interviewing schedule, direct links to company information, job banks, career

resource materials, and self-assessment exercises. The Web Job Listings service has hundreds of current vacancies listed daily by employers.
<http://www.umsl.edu/depts/career>

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

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

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

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

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

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

These work arrangements are available to UM-St. Louis students at all levels in all majors. Contact Career Services for requirements for participation and opportunities available, 516-5111, or visit 327 Millennium Center

Anthropology

315(4315), Senior Seminar - required, for credit
325 - 329(4325-4329), Internship in Cultural Anthropology, Archaeology, Folklore, Museum Studies, Physical Anthropology - elective, for credit; placement with outside organizations; junior standing required.

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

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

Biology

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

Chemistry

Opportunities are available to pursue research with faculty members for credit during the academic year. Normally requires enrollment in Chemistry 290(3905). Stipend available in some cases. 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 290(3905) research at a local company through collaborative arrangement between a faculty members and an industrial chemist.

Communication

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

Criminology and Criminal Justice

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

Economics

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

English

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

Foreign Languages and Literatures

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

History

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

Mathematics and Computer Science

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

Physics and Astronomy

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

Political Science

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

Psychology

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

Social Work

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

Sociology

385(4385), Internship in Sociology - elective, for credit.
304(4040) Survey Research Practicum - elective, for credit. Students should consult the sociology department, 707 Tower, for requirement guidelines.

Many departments within the College of Arts and Sciences work in cooperation with the College of Education for students seeking teaching certification in an emphasis area. Student teaching work arrangements are coordinated through the College of Education.

College of Business Administration

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

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

College of Education

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

College of Fine Arts and Communication

Art
287(3387), Professional Internship for Art History majors only - elective, for credit

288(3388), St. Louis Art Museum Internship for Studio Art or Art History majors only - competitive position elective for credit.

Music

292(4920), Internship - required, for credit, enrollment in bachelor of music business required. Department sponsored internships available for all majors at St. Louis area arts institutions

Engineering

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

Barnes College of Nursing and Health Studies

Clinical courses are required in both the undergraduate and graduate programs. These experiences are limited to nursing majors only.

Pierre Laclède Honors College

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

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

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

The PPRC endeavors to achieve its mission by:

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

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

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

Center for Business and Industrial Studies

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

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

Center for Transportation Studies

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

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

Center for Entrepreneurship and Economic Education

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

International Center for Tropical Ecology

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

Center for Molecular Electronics

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

Center for Neurodynamics

This center sponsors basic research on transmission and processing of information by the brain and the sensory nervous system. Research functions are performed largely by faculty, graduate students, and postdoctoral research associates, though exceptionally talented and motivated undergraduate students also make valuable research contributions. The center is interdisciplinary, composed of faculty from the departments of Biology and Physics and the College of Optometry. It maintains a program of external associates with whom collaborative research projects are pursued. Current associates are in Baylor College of Medicine, Houston, Texas; the Department of Biomedical Engineering, Boston University, Boston, Mass.; and Viatech Imaging Inc., Ivoryton, Conn. The center is host to frequent scientific visitors and maintains

an active program of seminars on contemporary problems in neuroscience and in the physics underlying neural processes. For further information consult the URL <http://neurodyan.umsl.edu>.

Missouri Research Park

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

Center for Trauma Recovery

CTR is a multi-disciplinary center of the University of Missouri-St. Louis whose purpose is to foster research, graduate and undergraduate education, and service in the areas of trauma and victimization.

The Center consists of faculty affiliates from six departments in the University who have research, teaching or service interests in trauma related topics. These individuals share a common set of goals. The Center sponsors a colloquium series every semester and offers an undergraduate certificate in Trauma Studies. The CTR is housed in the Kathy J. Weinman Building which also contains the Weinman Child Advocacy Center that provides services to traumatized children.

<http://www.umsl.edu/divisions/artscience/psychology/CTRHome.html>

Kathy J. Weinman Children's Advocacy Centre

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

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

<http://www.umsl.edu/services/casgsl/homepage.htm>

Centers Providing Public and University Service

Child Development Center

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

E. Desmond Lee Technology and Learning Center

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

Center for Human Origin and Cultural Diversity

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

Center for Humanities

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

published by Kluwer Academic in The Netherlands. The center disseminates information on the humanities on its Web site and promotes development of interdisciplinary outreach programs.

Information Technology Services

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

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

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

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

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

The Faculty Resource Center (FRC) is an area set aside for faculty use in the development and preparation of computerized courseware. Within the FRC is an array of computer equipment and software designed to make this process easier. Consultants are available to help faculty with software and hardware. The computers in the FRC are designed to mirror instructor's stations in the Advanced Technology Classrooms. For more information, please visit our web site at <http://www.umsl.edu/technology/> or call 314/516/6000.

Center for International Studies

The Center for International Studies supports academic programs, seminars, and conferences designed to promote and improve research in international studies, improve methods of teaching international studies in schools and colleges, and encourage an interest in international affairs in the university and area communities. The center's Office of International Student Services coordinates and provides services for international students including admissions, immigration, orientation, nonacademic advising, etc. In addition, the center administers the campus exchange and study abroad programs and disseminates information on study, work, and travel abroad. The center promotes the development of interdisciplinary and multidisciplinary courses, assists in staffing courses within individual departments, houses the Joint Center for East Asian Studies of UM-St. Louis and Washington University, the E. Desmond Lee Global Ethnic Collaborative, the Karakas Family Foundation Alliance for the Advancement of Hellenic Studies, and the Endowed Professorships in African-American Studies, Chinese Studies, Greek Studies, Irish Studies, Japanese Studies, and the German Culture Center. It conducts seminars that address specific faculty and student needs and interests, sponsors conferences for academic and community audiences, organizes international business development programs, sponsors an International Performing Arts series, issues occasional papers, administers undergraduate certificate programs in Africana studies, East Asian studies, European studies, international business, international studies, and Latin American studies and the Graduate Certificate in International Studies. In addition, the Center serves precollegiate educators statewide through the Missouri International Studies Resource Collection and operates a comprehensive global education program.

KWMU

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

Regional Center for Education and Work

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

Center for Teaching Excellence

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

University Eye Center

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

UM-St Louis Institute for Women's and Gender Studies

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

Women's Center

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

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

Continuing Education and Outreach

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

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

Arts and Sciences

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

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

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

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

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

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

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

Business Administration

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

Education

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

Fine Arts and Communication

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

Graduate School and Public Policy Administration

The Nonprofit Management and Leadership Program offers comprehensive education and training for professional staff, board members, and other leaders of nonprofit and voluntary organizations, as well as students and others wishing to explore a future in the field. The program offers noncredit seminars and credit courses leading to undergraduate and graduate certificates.

Nursing

Barnes College of Nursing and Health Studies at UM-St. Louis offers a variety of continuing education programs for nurses and other health care professionals.

Undergraduate Nursing and Arts and Sciences credit courses are offered for those wishing to complete their B.S.N. or finish prerequisites to begin work on a master's degree. Selected graduate courses are also offered.

Optometry

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

Outreach Sites

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

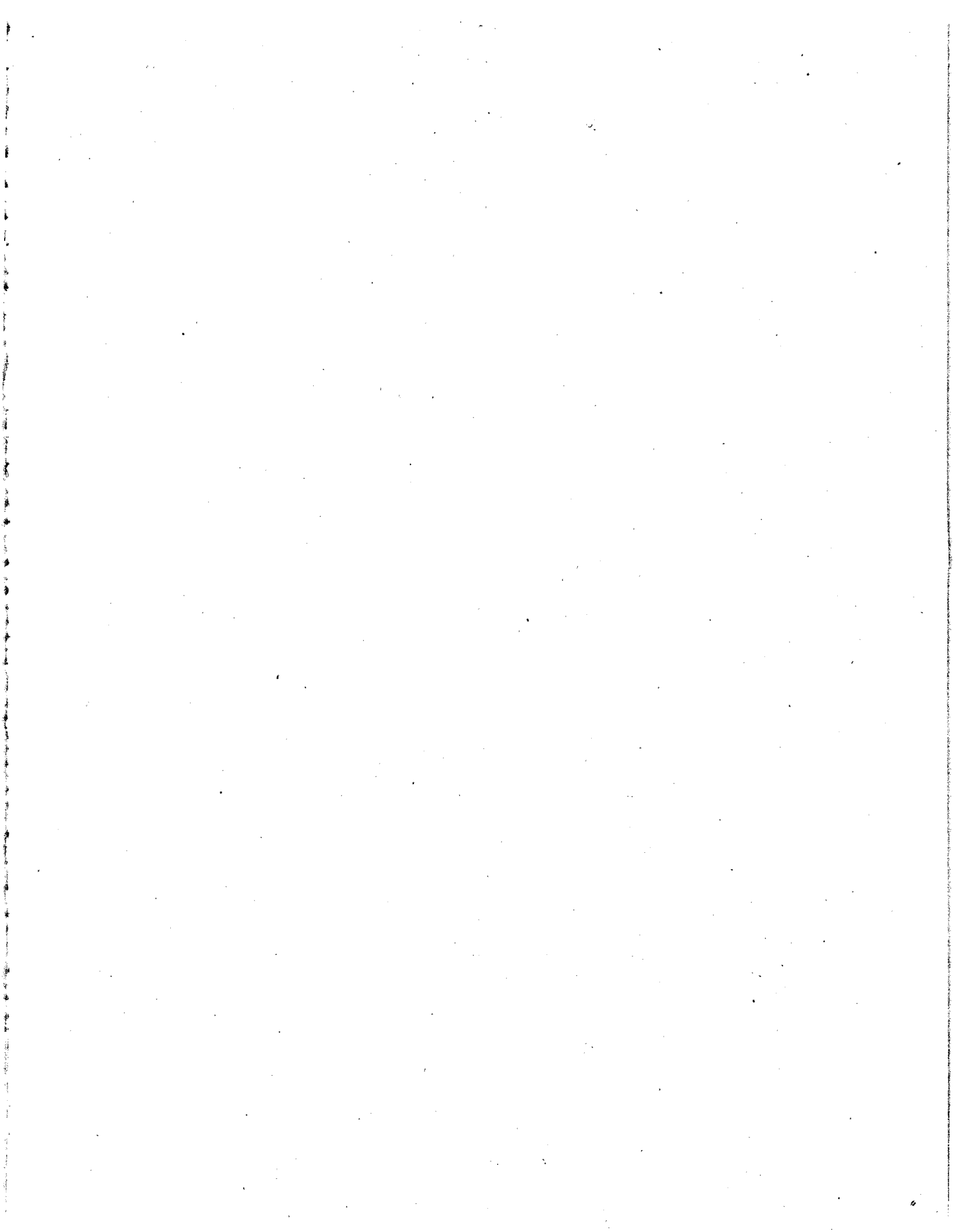
The UM-St. Louis St. Charles County Educational Center has been established on the campus of St. Charles Community College. Junior- and senior-level courses are offered at this site. In the Jefferson County Educational Center, courses are offered at Fox High School in Arnold and Jefferson College in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

In-house Training

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

J.C. Penney Conference Center

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



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UM-St. Louis Bulletin

College of Arts
and Sciences

College of
Business Administration

College of Education

Evening College

College of Fine Arts
and Communication

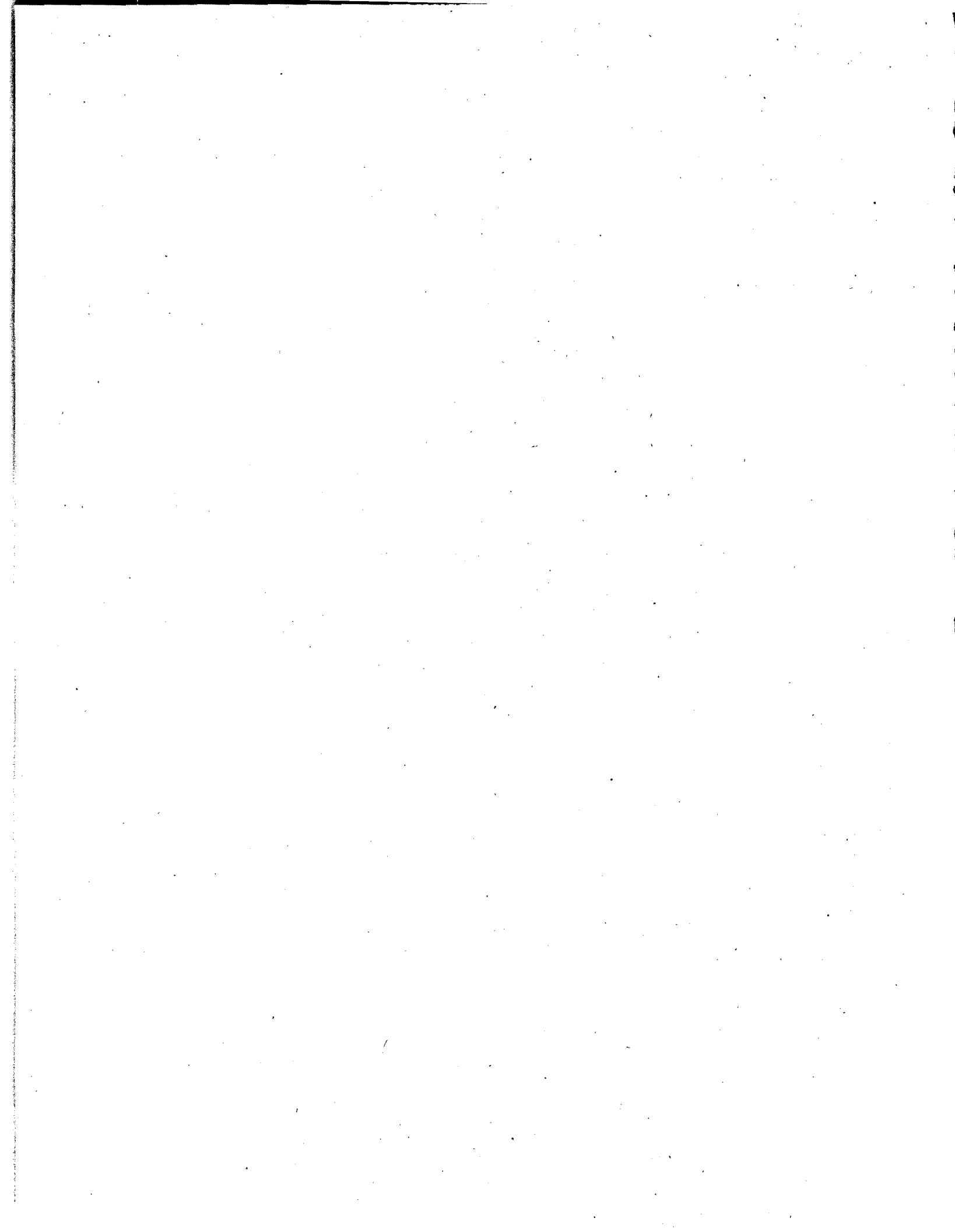
Inter-School Studies

Pierre Laclede Honors College

Barnes College of Nursing
and Health Studies

College of Optometry

Other Programs



Degree Programs

Undergraduate Studies

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

Bachelor of Arts (B.A.)

Anthropology
Art history
Biology
Chemistry
Communication
Economics
English
French
German
History
Mathematics
Music
Philosophy
Physics
Political science
Psychology
Sociology
Spanish

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

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

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

Bachelor of Music (B.M.)

Music
Music education

Bachelor of Science (B.S.)

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

Bachelor of Science in Business Administration (B.S.B.A.)

Bachelor of Science in Education (B.S.Ed.)

Early childhood education
Elementary education
Physical education
Secondary education
Special education

Bachelor of Science in Nursing (B.S.N.)

Bachelor of Science in Public Administration (B.S.P.A.)

Bachelor of Social Work (B.S.W.)

Graduate Studies

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

Master of Accounting (M. Acc.)

Master of Arts (M.A.)

Communication
Criminology and criminal justice
Economics
English
History
Mathematics
Philosophy
Political science
Psychology
Sociology

Master of Fine Arts (M.F.A.)

Creative writing

Master of Health Science (M.H.S.)

Managerial decision making and health informatics

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

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

Master of Education (M.Ed.)

Counseling
Educational administration
Elementary education
Secondary education
Special education

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

Master of Science (M.S.)

Biology
Chemistry
Computer science
Gerontology
Management information systems
Physics
Physiological optics

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

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

Doctor of Education (Ed.D.)

Doctor of Optometry (O.D.)

Doctor of Philosophy (Ph.D.)

Applied mathematics
Biology
Business administration
Chemistry
Criminology and criminal justice
Education
Information systems
Nursing
Physics
Physiological optics
Political science
Psychology

College of Arts and Sciences



College of Arts and Sciences

General Information

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

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

Requirements for Undergraduate Study

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

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

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

Academic Policies

Grade Requirements

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

- Earn 120 graded hours with a C grade or better, which constitutes a complete degree program neither a grade of C- nor a satisfactory grade may be counted.
- Have a minimum UM-St. Louis campus grade point average of 2.0 and have met all other grade point restrictions for the degree or program.
- To expand cultural awareness, all students are required to complete a course that emphasizes Asian,

African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or a comparable culture. A list of courses which satisfy this requirement can be found in the Introductory section of this Bulletin.

Residency Requirements

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

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

Specific Baccalaureate Degree Requirements

Course Requirements

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

Bachelor of Arts (B.A.)

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

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

- 1) Students entering with no high school language units must enroll in Language 1 or may enroll in the 115 series (see section 4).
- 2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption by passing the department's placement exam. The specific dates for the exam are announced in the *Schedule of*

Courses or may be obtained from the admissions office or the Department of Foreign Languages and Literatures.

3) Native speakers of language other than English may meet the foreign language requirement by presenting a transcript from a university or secondary school of their native country. The department will certify native speakers of those languages which are taught at the university. Those who are proficient in other languages must submit certification of competence to the college.

4) Language 115 a, b, and c (Intensive) will satisfy the foreign language requirement.

5) Students may not repeat, for either credit or quality points, an elementary course if they have already completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

Bachelor of Science (B.S.)

The College offers the B.S. degree in applied mathematics, biology, chemistry, biochemistry, computer science, criminology and criminal justice, economics, physics (with emphasis in applied physics, astrophysics, engineering physics, or medical physics), and sociology. The requirements are generally the same as for the B.A. degree with the following exceptions:

1) More credit hours in the major discipline may be counted toward satisfying the 120 hours needed for graduation. See departmental degree requirements for information.

2) Not all departments require foreign language proficiency. See departmental degree requirements for information.

Bachelor of Science in Public Policy and Administration (B.S.P.A.)

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

Bachelor of Social Work (B.S.W.)

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

Minors

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

Special Programs

Certificate Programs

Graduate and undergraduate certificate programs are offered in biochemistry, biotechnology, gerontology,

studies in religions, trauma studies, tropical and conservation biology, nonprofit organization management and leadership, women's and gender studies, and writing.

International Studies Certificate

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

Departmental Honors

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

Cooperative Education and Internship Programs

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

College of Arts and Sciences Extension

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

Department of Anthropology

Faculty

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

*members of Graduate Faculty

General Information

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

Anthropology is the study of humans through all time and space. The discipline considers our struggle to adapt to and survive in the natural and social environments and to improve our lot in the face of perpetual change. Anthropologists teach how cultures evolve and the role of individuals and groups in the invention and perpetuation of cultural beliefs, behaviors, symbols, and systems. Anthropologists have accumulated in-depth knowledge of thousands of cultures and use this to understand better our own cultural beliefs, actions, and institutions, as well as

those of people from other cultures. As the science of cultures, anthropology brings a powerful perspective to bear in understanding the emerging global order. Cross-cultural and evolutionary insights and knowledge help us envision how we can incorporate vast human diversity into a unified world order of peace, prosperity, justice, and opportunity.

Degrees and Areas of Concentration

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

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

Archaeology. Faculty are involved in regional and global research of both New and Old World Cultures. Current projects include excavation of an 800-year-old ceremonial 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 in and around the site of Pylos, Greece, a Bronze Age administrative center. The Department of Anthropology offers summer field schools where students learn excavations around the world through other institutions. Recent examples include archaeological studies in Egypt, Jordan, Belize, South Africa, and Malta. The department also has an archaeology lab and library with one of the largest extant collections of prehistoric and historical artifacts from eastern Missouri.

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

Biological Anthropology: Faculty are active in the study of the behavior, ecology, and evolution of primates and of

College of Arts & Sciences
Department of Anthropology

educational issues in the study of paleoanthropology (fossil record of human origins). Students have conducted original research at the St. Louis Zoo and have designed experiential lessons on human origin, fossil classification, and the foundations of human diversity for school children.

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

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

Minor in Anthropology

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

Undergraduate Studies

General Education Requirements

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

Degree Requirements

Bachelor of Arts in Anthropology

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

Anth 5(1005), Introduction to Biological Anthropology
Anth 11(1011), Introduction to Cultural Anthropology
Anth 19(1019), Introduction to Archaeology
Anth 202(3202), Culture, Politics, and Social Organization

Soc 220(3220), Sociological Statistics, or any other college-level statistics course

Anth 301(4301), Ideas and Explanations in Anthropology
Anth 308(4308), Practicum in Cultural Research Methods
OR

Anth 310(4310), Laboratory Methods in Archaeology
Anth 315(4315), Senior Seminar

- One archaeology area course in Anthropology numbered 100(2100)-199(2199).
- One culture area course in Anthropology numbered 100(2100)-199(2199).
- Two courses in Anthropology numbered 200(3200)-299(3299), in addition to 202(3202)

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

All minor degree candidates must take:

Anth 5(1005), Human Origins

Anth 11(1011), Introduction to Cultural Anthropology

Anth 19(1019), Introduction to Archaeology

OR Anth 301(4301), Ideas and Explanations in Anthropology

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

OR Anth 310(4310), Laboratory Methods in Archaeology

- One anthropology course at the 100-199 level.
- One anthropology course at the 200-299 level.
- One elective anthropology course at any level.

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

Career Outlook

The B.A. in Anthropology equips the student for employment in almost any area in which a bachelor's degree is sufficient and a sensitivity to cultural values and diversity is important. Graduates have found employment as university professors and lawyers and in 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. The employment forecast for people with M.A. and Ph.D. degrees in anthropology is good and is also good for bachelor degree graduates wishing to work in the business sector or to take advanced

degrees in related fields. For more career information, contact the department at 516-6020 for an appointment to talk with an appropriate faculty member or to request an information packet.

Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 05(1005), 11(1011), 15(1015), 19(1019), 20(2125), 21(1021), 25(1025), 29(1029), 33(1029), 41(1041), 91(1091), 109(2109), 110(2110), 111(2111), 113(2113), 114(2114), 117, 120(2120), 124(2124), 126(2126), 131(2131), 132(2132), 134(2134), 135(2135), 136(2136), 137(2137), 138(2138), 173(2173), 190(2190), 191(2191), 202(3202), 210(3210), 212(3215), 215(3215), 225(3225), 230(3230), 231(3231), 234(3234), 235(3235), 2238(3238), 242(3242), 244(3244), 250(3250), 255, 286(3286), 290(3290), 291(3291), 301(4301), 308(4308), 309(4309), 310(4310), 315(4315), 350(4350), 391(4391).

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

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

11(1011) Introduction to Cultural Anthropology (3) [V, SS, CD]

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

communication and conflict. This course satisfies the Cultural Diversity Requirement.

15(1015) Introduction to Folklore (3)

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

19(1019) Introduction to Archaeology (3) [MI, SS]

Archaeology is a subfield of anthropology that studies past human societies from their material remains. Explores the development of archaeology as a scientific discipline. Archaeological methods and theories will be explained using case studies from the continents of Africa, Asia, Australia, Europe and the Americas.

20(2125) Introduction to Historical Archaeology (3)

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

21(1021) The Body in Culture (3) [CD]

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

25(1025) World Cultures (3) [V, SS, CD]

An ethnographic survey of the major culture areas of the world (Africa, Asia, North and South America, Europe, and Oceania).

29(1029) Cultural Diversity Through Literature (3) [CD]

This course emphasizes the application of anthropological concepts to literary works to gain greater understanding of the richness and the relative validity of the expressions of people from a wide variety of geographical, ethnic, religious, and cultural backgrounds. Both male and female writers will be covered, and both male and female-oriented works will be read.

33(1033) World Archaeology (3) [MI, SS, CD]

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 Olduvai 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

41(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.

91(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.

109(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.

110(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.

111(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.

113(2113) Cultures of South Asia (3) [CD]

An ethnographic and historical survey of the various people of South Asia including India, Pakistan, Afghanistan, Bangladesh, Sri Lanka, Tibet, and Nepal. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments

114(2114) Cultures of the Near and Middle East (3) [CD]

A study of the cultural diversity and unity of the peoples of the Near and Middle East. Emphasis on historical and ethnological relationships, social and political structure, religious beliefs, and contemporary problems.

117(2117) The Culture and Civilization of Ancient Greece (3)

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

120(2120) Native Peoples of North America (3) [CD]

A survey of the aboriginal cultures of Native Peoples of North America, including prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of North American groups.

123(2123) Cultures of Oceania (3) [CD]

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

124(2124) Cultures of Africa (3) [CD]

A basic ethnographic survey of African cultures, with attention to social groupings, ethnicity, religion, language and social change, and the ecological relationship between humans and nature.

126(2126) Archaeology of Greater St. Louis (3)

Discussion of Ice Age hunters and gatherers, moundbuilders, fur traders, farmers and industrial workers from the history of the Greater St. Louis Community. The physical testimony to their lives remains buried beneath the city streets and buildings. Archaeology is our link to this cultural legacy. Through the use of archaeological data and historical sources, this class will explore human social and cultural developments in St. Louis.

131(2131) Archaeology of Missouri (3) [CD]

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

132(2132) Archaeology of North America (3) [CD]

Examines the archaeological record of human developments throughout prehistoric North America. Topics of discussion include the origins of human culture in America, the processes of prehistoric cultural development in the different regions of the continent, and archaeological approaches to explaining the behavior of North America's prehistoric inhabitants

134(2134) Archaeology of the Inca, Aztec, and Maya (3) [CD]

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

135(2135) Old World Archaeology (3) [CD]

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

136(2136) Archaeology of East Asia (3) [CD]

Discusses the development of cultures of China, Japan, and Korea from the most ancient origin of humans in the region to the rise of early Chinese Dynastic states. Discoveries from archaeological excavations will be explored emphasizing China.

137(2137) Archaeology of Africa (3) [CD]

Examines the archaeology of Africa from pre-historic times up to the period of European contact (ca. A. D. 1700). Explores the diversity of the past African environments and cultures. It will deal with important archaeological issues such as the history and practice of

African archaeology, the role of the environment in the development of technology, art, architecture, trade relations and statehood in Africa.

138(2138) African-American Archaeology (3) [CD]

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

173(2173) Archaeology and Cultures of the Biblical World (3) [CD]

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

190(2190) Special Topics in Archaeology (3)

Discusses varying cultural areas from an archaeological perspective. May be repeated with consent of department. Satisfies the Cultural Diversity requirement only when the topic is a Non-Western Culture.

191(2191) Special Topics in Non-Western Cultures (3) [CD]

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

202(3202) Culture, Politics and Social Organization (3)

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

210(3210) Applied Anthropology (3)

Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of instructor. A description and analysis of methods, principles, and use of anthropology in solution of problems associated with the changing conditions of our times. The course will examine a wide variety of cross-cultural case studies.

212(3212) Medical Anthropology (3)

Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of instructor. An examination of the growing interaction between anthropology and medicine, and the increasing use of anthropologists in medical and health-care settings. In addition to teaching current theory in medical anthropology, the course focuses on anthropologically based skills essential to those working in health-related fields.

215(3215) Growing Old in Other Cultures (3)

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

225(3225) Myth, Ritual, and Death: the Archaeology of Religion in Greece (3)

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

230 (3230) Method and Theory in Prehistoric Archaeology (3)

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

231(3231) Method and Theory in Historical Archaeology (3)

Prerequisites: Anthropology 19(1019), 20(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.

234(3224) Cultural Continuity and Change in Sub-Saharan Africa (3) Prerequisite: Anthropology 11(1011) or intro course in another social science or consent of

instructor. This course is intended to examine cultural phenomena within Africa from the 19th century to the present. Our goal will be to reach an understanding of continuities and change in the existing universal social institutions. A thematic approach will include discussions on kinship; geo-politics; natural and supernatural forces; gender relations; economics in the world economy; and prospects for the future. Ethnographic and other supporting social scientific resources gathered from African people will be investigated. Problems and accomplishments are both reviewed so as to acknowledge the complexity of contemporary African societies. Student discussion is encouraged.

235(3235) Women in Sub-Saharan Africa: A Contemporary Perspective (3) [CD]

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

238(3238) Culture and Business in East Asia (3) [CD]

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

242(3242) The Culture of Cities (3)

Prerequisite: Anthropology 11(1011), or introductory course in another social science, or consent of instructor. A comparative analysis of the cultural roles of urban centers and the processes of urbanization in non-Western and Western societies, past and present. A consideration of urban influences on rural America and the traditional peasant and primitive peoples of Africa, Asia, and Latin America.

244(3244) Religion, Magic, and Science (3)

Prerequisite: Anthropology 11, or introductory course in another social science, or consent of the instructor. A consideration of the roles of religion, magic, and science in culture and social organization.

250(3250) American Folklore (3)

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

255(3255) Oral History and Urban Culture in St. Louis (3)

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

286(3286) Society, Arts, and Popular Culture (3)

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

290(3290) Advanced Topics in Archaeology (3)

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

291(3291) Current Issues in Anthropology (3)

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

301(4301) Ideas and Explanations in Anthropology (3)

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

308(4308) Practicum in Cultural Research Methods (4)

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

309(4309) Archaeological Field School (3-6)

Prerequisite: Consent of instructor. Advanced methods in field archaeology and laboratory analysis. Emphasis is placed on sampling, the use of theory in guiding field and laboratory work, advanced field techniques, and specialty analysis. Opportunities are provided for the development of field and laboratory leadership skills. Independent research is encouraged.

310(4310) Laboratory Methods in Archaeology (4)

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

315(4315) Senior Seminar in Anthropology (3)

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

325(4325) Internship in Cultural Anthropology (1-3)

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Cultural Anthropology internships are aimed at providing students with opportunities to learn to apply their knowledge of social and cultural process and diversity to practical situations in the market place of ideas, goods, and services. Specific placements will be selected to match a student's interests and career goals.

326(4326) Internship in Archaeology (1-6)

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Archaeology internships are aimed at providing students with opportunities to work with professional archaeologists in public and private research environments including laboratories and curation centers. Specific placements will be selected to match a student's interests and career goals.

327(4327) Internship in Folklore (1-3)

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

328(4328) Internship in Museum Studies (1-3)

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

329(4329) Internship in Physical Anthropology (1-3)

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate institution, lab or research setting related to forensics, primate behavior and biology, human genetics, population, environmental policy, and other domains related to physical anthropology.

350(4350) Special Study (1-3)

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

39(4391) Current Issues in Anthropology (1-4)

Prerequisite: Anthropology 11(1011) or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends

in the field of anthropology. May be repeated. (Non-majors may register in Anthropology 19(1019).)

428(5428) Culture and Business in East Asia (3)

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

435(6135) Foundations of Museology I (3)

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

436(6131) Foundations of Museology II (3)

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

437(6137) Effective Action in Museums (3)

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

438(6138) Museum Studies Master's Project (4)

Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 438(6038) and History 438(6138).) Research and writing/exhibit development on a selected topic.

439(6139) Practicum in Exhibit and Program Development (3)

Prerequisite: Consent of Director of Museum Studies Program. Development of exhibits and related education programs. Students work as teams with museum professionals to develop and implement an exhibit concept that integrates design, education and marketing from the onset. Methods in planning, flow charting, budgeting, team dynamics and related skills.

440 Cultural Aspects of Aging (3)

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

491 Gender, Ethnicity, and Nationalism (3)

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

Department of Biology**Faculty**

- Patricia G. Parker**, E. Desmond Lee Professor of Zoological Studies*, Chairperson
Ph.D., University of North Carolina, Chapel Hill
- Elizabeth A. Kellogg**, E. Desmond Lee Professor of Botanical Studies*
Ph.D., Harvard University
- Charles R. Granger**, Distinguished Teaching Professor*
Ph.D., University of Iowa
- Robert E. Ricklefs**, Curators Professor*
Ph.D., University of Pennsylvania
- Arnold B. Grobman**, Professor Emeritus*
Ph.D., University of Rochester
- James H. Hunt**, Professor*
Ph.D., University of California-Berkeley
- Robert J. Marquis**, Professor*
Ph.D., University of Iowa
- Frank Moss**, Professor*
Ph.D., University of Virginia
- Susanne S. Renner**, Professor*
Dr. Habil; Dr. rer. Nat, University of Hamburg
- Martin Sage**, Professor Emeritus*
Ph.D., Nottingham University
- Peter F. Stevens**, Professor*
Ph.D., Edinburgh
- Zuleyma Tang-Martinez**, Professor*, Director Graduate Program
Ph.D., University of California-Berkeley
- Teresa Thiel**, Professor*; Associate Dean, Arts and Sciences
Ph.D., Case Western Reserve University
- Lon A. Wilkens**, Professor*
Ph.D., Florida State University
- Shirley T. Bissen**, Associate Professor*, Director Biotechnology Program
Ph.D., University of Michigan
- John G. Blake**, Associate Professor*
Ph.D., University of Illinois
- Godfrey R. Bourne**, Associate Professor*
Ph.D., University of Michigan
- Albert Derby**, Associate Professor Emeritus*
Ph.D., City University of New York
- Harvey P. Friedman**, Associate Professor*
Ph.D., University of Kansas
- Lawrence D. Friedman**, Associate Professor Emeritus*
Ph.D., University of Wisconsin
- Donald E. Grogan**, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia
- Bette A. Loiselle**, Associate Professor*; Director, International Center for Tropical Ecology
Ph.D., University of Wisconsin
- Jane A. Starling**, Associate Professor*
Ph.D., The William Marsh Rice University
- Wendy M. Olivás**, Assistant Professor*
Ph.D., University of Nebraska Medical Center
- Marc Spingola**, Assistant Professor*
Ph.D., University of New Mexico
- Mariette P. Baxendale**, Lecturer
Ph.D., Saint Louis University
- Carol Weber**, Lecturer
M.S., University of Missouri-St. Louis
- Terry L. Erwin**, Research Professor*
Ph.D., University of Alberta
- Peter H. Raven**, Research Professor*; Director, Missouri Botanical Garden,
Ph.D., University of California-Los Angeles
- M. Jan Salick**, Research Professor*
Ph.D., Cornell University
- Ihsan A. AlShehbaz**, Research Associate Professor*
Ph.D., Harvard University
- Bruce Allen**, Research Associate Professor*
Ph.D., University of Cincinnati
- Eldridge 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. Jørgensen**, 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. vanderWerff**, 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, ICTE,
Ph.D., East Anglia
Terry Jo Gile, Affiliate Assistant Professor; Jewish
Hospital College of Nursing and Allied Health
M.A., Central Michigan University
Linda J. McCown, Affiliate Assistant Professor; Jewish
Hospital College of Nursing and Allied Health
M.S., University of Pittsburgh
David F. Russell, Affiliate Assistant Professor
Ph.D., University of California-San Diego
Michael D. Ward, Affiliate Assistant Professor, Director,
Allied Health Programs, Jewish Hospital College of
Nursing and Allied Health
Ph.D., Saint Louis University
Donna Duberg, Adjunct Lecturer; Chair CLS Program,
Jewish Hospital College of Nursing and Allied Health
M.S., Michigan State University
Linda Hoechst, Adjunct Lecturer
M.A., Webster University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

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

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

Departmental Honors

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

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

Minor in Biology

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

Graduate Studies

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

Objectives of the master's degree program are to provide 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. Out-of-state educational fees are waived for graduate assistants. Applications for assistantships must be sent to the Director of Graduate Studies in the Department of Biology and be received by December 15.

Facilities

Department facilities include research and teaching laboratories, environmental chambers, greenhouses, and a large array of supporting modern research instrumentation. Graduate research can be pursued using facilities of the Missouri Botanical Garden or the Saint Louis Zoo. Several sites within an hour of campus are suitable for regional field studies, including state parks, wildlife conservation areas, and Washington University's Tyson Research Center. UM-St. Louis is a member of the St. Louis University Research Station Consortium that operates Lay and Reis Field Stations in Missouri and it also holds membership in the Organization for Tropical Studies, which operates three field stations in Costa Rica. CEIBA Biological Centre in Guyana has hosted several UM-St. Louis courses and student researchers. Student researchers work independently at research stations throughout the tropics.

Cooperative Programs

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

Undergraduate Studies

General Education Requirements

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

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

Satisfactory/Unsatisfactory Option

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

Degree Requirements

Bachelor of Arts in Biology

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

biology course work. The following biology foundation courses must be included in the 39 credit hours.

Foundation Courses

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

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

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

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

Basic Skills Requirement

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

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

Foreign Language

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

Writing.

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

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

The following courses in chemistry are required:

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

Also required:

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

Bachelor of Science in Biology

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

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

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

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

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

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

Basic Skills Requirement

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

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

Set A. Statistics

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

Set B. Computer Science

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

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

Communication

Comm 40(1040), Introduction to Public Speaking

Writing

Eng 210(3100), Advanced Expository Writing or

Eng 216(3160), Writing in the Sciences (strongly preferred)

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

Phys 11(1011), Basic Physics
Phys 12(1012), Basic Physics
Chem 11(1111), Introduction Chemistry I, or
Chem 1(1082), General Chemistry I, plus
Chem 9(1091), General Chemistry II
Chem 12(1121), Introductory Chemistry II
Chem 261(2612), Organic Chemistry I
Chem 262(2622), Organic Chemistry II
Chem 263(2633), Organic Chemistry Laboratory or
Chem 122(2223), Quantitative Analysis
Phil 156(2256), Medical Ethics, or
Phil 280(3380), Philosophy of Science
Math 30(1030), College Algebra, and
Math 35(1035), Trigonometry
Math 100(1100), Basic Calculus, or
Math 80(1800), Analytical Geometry and Calculus I

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

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

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

Bachelor of Science in Education with Emphasis in Biology

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

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

Psych 3(1003), General Psychology
Ed Fnd 111(1111), The School in Contemporary Society
English 216(3160), Writing in the Sciences
History 2(1001), **4(1002)**, or **6(1003)**, American Civilization
PolSci 11(1100), Introduction to American Politics
Philosophy 280(3380), Philosophy of Science
Comm 40(1040), Introduction to Public Speaking
Theater 21(1210), Fundamentals of Acting
Geology 1(1001), General Geology
Atmospheric Science 1(1001), Elementary Meteorology
Ed Psy 312(3312), The Psychology of Teaching and Learning
Ed Tec 248(2248), Utilization of Computer-Based Materials in Instruction
Sec Ed 213(3213), Techniques of Secondary School Teaching and Field Experience or
Tch Ed 310(3310), Introduction to Instructional Methods
Spec Ed 313(3313), The Psychology and Education of Exceptional Individuals
Sec Ed 386(4391), Teaching Reading in Secondary School
Content Areas
Biology 285(4985), Curriculum and Methods of Teaching Life Sciences
Biology 286(4986), Laboratory in Teaching Life Sciences
Sec Ed 290(3290), Secondary School Student Teaching
Biology 399(4999), Science Teaching Intern Seminar

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

Minor in Biology

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

Requirements are:

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

All students must consult with an adviser to plan an appropriate course of study. This program must be approved by the chairperson of the Department of Biology. Under certain circumstances, a student may deviate from

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.

Biochemistry Certificate

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

Biology

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

Chemistry

11(1111), Introductory Chemistry I
12(1121), Introductory Chemistry II
122(2223), Quantitative Analysis
261(2612), Organic Chemistry I
262(2622), Organic Chemistry II
263(2633), Organic Chemistry Laboratory

and three of the following biology courses:

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

Undergraduate Certificate in Biotechnology

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

Requirements

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

Biology

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

One of the following two courses:

Biology

326(4602), Molecular Biology
338(4612), Molecular Genetics of Bacteria

One of the following seven courses:

Biology

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

Undergraduate Certificate in Conservation Biology

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

Core Courses

Biology

220(2102), General Ecology
240(3202), Conservation Biology
241(3203), Conservation Biology Laboratory
347(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

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

Biology

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

395(4245), Field Biology

396(3182), Introduction to Marine Science

Economics

230(3300), International Economic Analysis
251(3001), Intermediate Economic Theory: Microeconomics

360(4550), Natural Resource Economics

History

300(3000), Selected Topics when relevant

Political Science

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

351(4510), Comparative Public Policy and Administration

359(3590), Studies in Comparative Politics when relevant

Social Work

390(3900), Seminar in Social Work when relevant

Sociology

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

Preprofessional Graduation

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

In this program students may be admitted to the College of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when students

satisfactorily complete the first year of optometry school. One or more of the following conditions must be met in order to qualify for the undergraduate degree.

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

Graduate Studies

Master of Science in Biology

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

M.S. Admission Requirements

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

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

In addition to the Graduate School admission requirements, applicants should have completed advanced undergraduate biology courses including genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are also expected, and a course in statistics is highly recommended. Students

admitted to the degree program who have not met some of the prerequisites may be asked to pass appropriate courses before graduating. These courses will be agreed upon by the student's adviser, the student, and the Director of Graduate Studies during the first semester of enrollment. In particular, undergraduate deficiencies in genetics and either biochemistry or evolution shall be made up by taking the appropriate course(s).

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

M.S. Degree Requirements

Advisers

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

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

General Requirements

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

Non-thesis Option

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

Thesis Option

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

The student and adviser work together to develop a research plan. The thesis proposal must be approved by the student's adviser and advisory committee before the student enrolls in more than 4 credit hours of Biology 490(6905), Graduate Research, and before the student has completed 15 credit hours in the master's program. A

thesis embodying results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. This approval requires both a written thesis and oral presentation and defense.

Ph.D. in Biology

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

Ph.D. Admission Requirements

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

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

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

Ph.D. Degree Requirements

In addition to the general requirements of the Graduate School, the basic requirements for the Ph.D. degree in Biology include 60 credit hours of course work which must be taken beyond the bachelor's degree. At least 30 of the 60 hours must be taken at the 400 level. With the explicit consent of the advisory committee, students may take for graduate credit up to 3 credit hours of 200-level

courses in allied departments. Courses in biology at the 200 level and below are not available for graduate credit. At least 31 of the 60 hours must be taken while in residence at the University of Missouri-St. Louis. Graduate credit for course work transferred from another program is subject to approval by the graduate committee and by the Graduate School. Graduate courses taken elsewhere will be considered for transfer credit during orientation meetings conducted prior to the start of the second semester of enrollment.

Specific courses shall be completed as follows:

- **Biology 388(4122)** (3 hours), Biometry, or equivalent course in statistics.
- **Biology 489(6889)** (2 hours), Graduate Seminar.
Three semesters required (6 credits total).
- 12 hours of formal course work required by the student's emphasis area at the time a student is admitted to the Ph.D. program.

The maximum number of credit hours that may be applied toward the 60-hour requirement is limited as stated below:

- **Biology 489(6889)**, Graduate Seminar: 10 hours
- **Biology 490(6905)**, Graduate Research: 30 hours

A combination of 6 total credit hours of the following:

- **Biology 405(5059)**, Topics in Ecology, Evolution, and Systematics
- **Biology 406(5069)**, Topics in Molecular, Cellular and Developmental Biology
- **Biology 407(5079)**, Topics in Floristic Taxonomy

First-Year Experience

Graduate students are expected to become involved in a research experience during their first-year program, usually winter semester or summer session.

Qualifying Examination and Dissertation

Students must pass a qualifying examination (which consists of a written and oral component), based on fundamental principles presented in formal courses and in papers of special importance in the field. The exam will be given in January of each year, at the beginning of the winter semester. Students beginning studies in the fall semester would normally take the qualifying examination prior to their fourth semester of full-time study. Doctoral students who have earned an M.S. degree previously are encouraged to take the examination in their first year.

Admission to Candidacy

To be admitted to candidacy, students must satisfy the requirements of the Graduate School, which includes passing all qualifying examinations and completing all required course work (which is a minimum of 24 credit hours as specified above).

Dissertation Proposal

All students must defend orally a written dissertation proposal to their dissertation committee. The approved proposal must be submitted to the director of graduate studies in biology. Doctoral students may not enroll in more than 4 credits of graduate research (Biology 490)(6905) before they have received approval for their dissertation proposal.

Dissertation

A dissertation embodying the results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. The general regulations of the Graduate School concerning the preparation of the dissertation must be met. These rules include a public oral defense of the written dissertation. Dissertations are to be presented in a style appropriate for one or more publications in scientific journals.

Teaching

At least one semester of supervised teaching is required of all doctoral students.

Graduate Certificate in Biotechnology

The Graduate Certificate in Biotechnology is offered for students with a bachelor's degree who wish to obtain advanced level training in those fields of biology that pertain to biotechnology without necessarily earning a master's degree. Students who enter this program may have a variety of interests, including biochemistry, microbiology, molecular biology, cell biology, developmental biology, or molecular evolution.

Admission

Students who wish to earn a Graduate Certificate in Biotechnology must apply to the Biotechnology Certificate Program for admission to the program. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as non-degree students or as master's students.

Students who wish to obtain a master's degree with a Biotechnology Certificate must be accepted into the Master's degree program in Biology as well as into the Biotechnology Certificate Program. Students who apply to the certificate program as non-degree students will earn only the certificate.

Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

Requirements

Students must maintain a minimum GPA of 3.0 to remain in the certificate program. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program may simultaneously earn a

graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

The biotechnology certificate requires 18 credit hours of course work.

Core Requirements

I. Biology 428(6615), Advanced Biotechnology Laboratory II

II. Biology 426(6602), Advanced Molecular Biology or Biology 438(6612), Advanced Molecular Genetics of Bacteria

(If both Group II courses are taken, one may be used as elective credit)

III. The remaining 11 credit hours must be taken from the following electives:

Biology

317(4842), Immunobiology

319(4843), Immunobiology Laboratory

371(4712), Biochemistry

376(5712), Topics in Biochemistry

406(5069), Topics in Molecular, Cellular, and Developmental Biology

417(5842), Advanced Immunology

431(6699), Graduate Internship in Biotechnology

433(6632), Advanced Nucleic Acid Structure and Function

434(6652), Advanced Virology

435(6622), Advanced Molecular Cell Biology

439(6642), Advanced Plant Molecular Biology and Genetic Engineering

489(6889), Graduate Seminar, when relevant

Chemistry

372(4722), Advanced Biochemistry

373 (4723), Biochemical Techniques

Graduate Certificate in Tropical Biology and Conservation

The certificate is awarded after completion of 18 credit hours of core courses and electives with a minimum of 12 credits at the 400 level. Up to 3 credits may be taken at the 200 level upon permission of the Graduate Committee. Electives must include a minimum of 3 credits outside biology with a maximum of 7 outside biology. A maximum of 3 credits may be taken elsewhere than 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 445(6250), Public Policy of Conservation and Sustainable Development

Biology 447(6299), Internship in Conservation Biology (May be replaced with a biology elective for individuals with applied conservation or environmental agency experience upon consent of the Graduate Committee).

Choice of:

Biology 446(6212), Theory and Application of Conservation Biology
Biology 487(6222), Advanced Tropical Ecology and Conservation

Electives:

Biology

341(4182), Population Biology
351(4501), Flowering Plant Families Phylogeny and Diversification
364(4402), Ornithology
367(4422), Entomology
385(4202), Wildlife Ecology and Conservation
396(3182), Introduction to Marine Science
423(5122), Advanced Tropical Resource Ecology
424(5123), Advanced Tropical Resource Ecology Field Studies
425(5145), Advanced Tropical Vertebrate Ecology
441(6182), Advanced Population Biology
442(5192), Population and Community Ecology
446(6212), Theory and Application of Conservation Biology
448(6112), Advanced Evolution of Animal Sociality
480(6102), Advanced Behavioral Ecology
483(6192), Applications of Geographic Information Systems
487(6222), Advanced Tropical Ecology and Conservation
489(6889), Graduate Seminar, when relevant
Economics
230(3300), International Economic Analysis
251(3001), Intermediate Economic Theory: Microeconomics
360(4550), Natural Resource Economics
History
300(3000), Selected Topics in History, when relevant
371(3201), History of Latin America: to 1808
372(3202), History of Latin America: Since 1808
381(3302), West Africa Since 1800
425(6114), Readings in Latin American History, when relevant
430(6115), Readings in African History, when relevant
Political Science
248(3480), Environmental Politics
253(2530), Political Systems of South America
254(2540), Political Systems of Mexico, Central America, and the Caribbean
258(2580), African Politics
283(3830), International Political Economy
285(3850), International Organizations and Global Problem Solving
347(4470), Introduction to Environmental Law and Policy
351(4510), Comparative Public Policy and Administration
359(3590), Studies in Comparative Politics, when relevant
385(4850), International law
388(3890), Studies in International Relations
394(4940), Leadership and Management in Nonprofit Organizations
414(6414), Topics in Public Policy Analysis, when relevant

448(6448), Political Economy and Public Policy
459(6459), Seminar in Latin American Politics, when relevant

462(6462), Political Theory and Public Policy
481(6490), Seminar in International Relations

Social Work

390(4950), Seminar in Social Work Issues, when relevant

Sociology

342(4342), World Population and Ecology
346(4646), Demographic Techniques
426(5426), Community and Regional Conflict Resolution

Career Outlook

The biology degree programs, at the baccalaureate and master's degree levels, are designed to prepare the student for further training. The undergraduate degree is designed to prepare the student for professional training in areas such as medicine, training, dentistry, veterinary medicine, optometry, and related areas, or for further graduate training in research. The Master of Science program is an extension of the undergraduate program and has as its goals three main objectives:

- Provide research-oriented training and education.
- Provide qualified graduates for doctoral programs.
- Provide secondary school and junior college biology teachers with training necessary to maintain and improve their teaching effectiveness.

The Ph.D. program prepares students as research professionals in fields such as biological conservation, ecology, and biomedical science. Employment opportunities are available in college or university research and teaching, in government and public institutions such as museums and botanical gardens, and in industry.

Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult an adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary 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:

1(1012), 3(1013), 11(1811), 12(1821), 110(1102), 113(1131), 114(1141), 116(1162), 120(1202), 130(1081), 213(3802), 215(3803), 216(2482), 218(2483), 220(2102), 222(2103), 224(2012), 226(2013), 232(3622), 234(3631), 235(3642), 237(3643), 240(3202), 241(3203), 246(3302), 250(2501), 260(2402), 262(2403), 264(2442), 266(2443), 280(3102), 282(3103), 292(3920), 314(4802), 316(4482), 317(4842), 319(4843), 320(4822), 322(4823), 323(3122), 324(3123), 325(3145), 326(4602), 327(4614), 328(4615), 333(4632), 334(4652), 335(4622), 338(4612), 339(4642), 341(4182), 348(4112), 351(4501), 353(4532), 355(4552), 360(4784), 362(3322), 364(4402), 365(5312), 366(4403), 367(4422), 368(4423), 371(4712), 375(4713), 376(5712), 378(5715), 380(4102), 382(4302), 383(4192), 384(4162), 385(4202), 386(4203), 387(4222), 388(4122), 389(4889), 390(4905), 392(4920), 395(4245), 396(3182), 398(3183).

1(1012) General Biology (3), [MS]

Emphasis on fundamental principles of biology. Biology 1(1012) can be applied toward fulfillment of the general education requirement in science. Biology 1(1012) does not satisfy the prerequisite requirements in other courses in biology at the 200 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions should enroll in Biology 11(1811) rather than Biology 1(1012). Three hours of lecture per week.

3(1013) General Biology Laboratory (2), [MS]

Prerequisite: Biology 1(1012) (may be taken concurrently). Laboratory course to accompany Biology 1(1012). Biology 3(1013) can be used to fulfill the general education requirements in a laboratory science. Biology 3(1013) does not meet the prerequisite requirements for other courses in biology. Three and one-half hours of laboratory per week.

11(1811) Introductory Biology I (5), [MI, MS]

Prerequisites: A minimum of high school chemistry, English 10(1100) or equivalent (may be taken concurrently), and placement into college algebra or higher. Required for students intending to major in biology or take specified biology courses at the 200 level or above. Ordinarily followed immediately by Biology 12(1821). This course presents an introduction to some of the principles of biology and scientific methodology

applied to the molecular/cellular through organ system levels of organization. Topics include: cell structure, metabolism, reproduction, heredity and major physiological processes regulated by organ systems. Three hours of lecture, three and one-half hours of lab, and one hour of discussion per week.

12(1821) Introductory Biology II (5), [MI, MS]

Prerequisites: Biology 11(1811). Required for students intending to major in biology or take specified biology courses at the 200 level or above. Ordinarily taken immediately following Biology 11(1811). This course presents an introduction to some of the principles of biology and scientific methodology applied to the organismal and supraorganismal levels of biology. Topics to be covered include: ecology, evolution, diversity, and population biology. Three hours of lecture, three and one-half hours of laboratory, and one hour of discussion per week.

110(1102) Human Biology (3) [C, MS]

Lectures and readings concerned with the reproduction, development, genetics, functional anatomy, behavior, ecology, and evolution of the human species. Three hours of lecture per week.

113(1131) Human Physiology and Anatomy I (4), [MS]

Prerequisite: Biology 1(1012) or its equivalent. The basic aspects of the structure of the healthy human body and how it functions. Special emphasis is on how the human body adapts itself to its environment and how changes affect physiological activities. Three hours of lecture and two hours of laboratory per week.

114(1141) Human Physiology and Anatomy II (4), [MS]

Prerequisite: Biology 113(1131). A continuation of Biology 113(1131). A study of the basic aspects of human physiology and anatomy. Three hours of lecture and two hours of laboratory per week.

116(1162) General Microbiology (3), [MS]

Prerequisite: Biology 1(1012) or its equivalent. A survey of microbial structure, genetics, and physiology. Special emphasis will be placed on the transmission and control of such organisms as they relate to the maintenance of human health. Three hours of lecture per week.

120(1202) Environmental Biology (3), [MI, MS]

An examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution, and conservation. Three hours of lecture per week.

130(1081) Global Ecology (3), [V, SS, MS]

Prerequisite: Biology 1(1012). Must be taken concurrently with Political Science 85(1850) for 3 hours of Biology and 3 hours of Political Science credit. A course team-taught by the Biology and Political Science departments, aimed particularly at elementary education majors. Combines

natural science and social science perspectives in taking a global view of a variety of environmental concerns, such as air and water pollution, climate change, conservation of nonrenewable resources, and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national, and international levels. Features labs and field trips in addition to lecture and discussion. Three hours of lecture, one hour and fifteen minutes discussion and three and one-half hours laboratory per week.

213(3802) Vertebrate Physiology (3)

Prerequisite: Biology 11(1811) and 12(1821) and Chem 11(1111) (or Chem 1(1082) plus Chem 9(1091)). Basic functional aspects of organ systems in relation to the physiochemical properties of protoplasm. Three hours of lecture per week.

215(3803) Vertebrate Physiology Lab (2)

Prerequisite: Biology 213(3802) (may be taken concurrently). Instrumental and experimental studies in physiology. Three and one-half hours of laboratory per week.

216(2482) Microbiology (3)

Prerequisite: Biology 11(1811) (majors must also take Biology 12(1821)) and Chem 11(1111) (or Chem 1(1082) plus Chem 9(1091)). Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

218(2483) Microbiology laboratory (2)

Prerequisite: Biology 216(2482) (may be taken concurrently). Experimental studies and procedures of microbiological techniques. Three and one-half hours of organized laboratory time per week. Students will need to return to the laboratory at unscheduled times to complete some exercises.

220(2102) General Ecology (3)

Prerequisite: Biology 11(1811) and 12(1821). An examination of the relationships between living organisms and their environment. Three hours of lecture per week.

222(2103) General Ecology Laboratory (2)

Prerequisite: Biology 220(2102) required (may be taken concurrently); a general statistics course strongly recommended. Analysis of environmental factors influencing the abundance and distribution of living organisms. Some classes held at field sites in and around St. Louis. Three and one-half hours of laboratory or field work per week.

224(2012) Genetics (3)

Prerequisite: Biology 11(1811) (majors must also take Biology 12(1821) and Chem 11(1111) (or Chem 1(1082) plus Chem 9(1091)). Fundamental principles of inheritance, including classical genetic theory as well as recent

advances in the molecular basis of heredity. Three hours of lecture per week.

226(2013) Genetics Laboratory (2)

Prerequisite: Concurrent registration in Biology 224(2012), or by consent of instructor. Laboratory to accompany Biology 224(2012). Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some exercises.

231(3699) Undergraduate Internship in Biotechnology (1-4)

Prerequisite: Biology 11(1811) and 12(1821), Chem 11(1111) and 12(1121) and consent of instructor. Concurrent enrollment in Chem 261(2612) or higher is strongly encouraged. A 2.5 GPA and enrollment in the undergraduate Biotechnology Certificate Program is required. Internship will consist of a period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours a student works each week and in consultation between the intern's supervisor and instructor. Two credits may be used to fulfill the lab requirement.

232(3622) Cell Structure and Function (3)

Prerequisite: Biology 11(1811) (majors must also take Biology 12(1821), Chem 11(1111), 12(1121) and 261(2612) or equivalents. General cell biology, stressing cell structure and ultrastructure, as related to cell function. Three hours of lecture per week.

234(3631) Histology and Microtechniques (5)

Prerequisite: Biology 11(1811) (majors must also take Biology 12(1821)), Biology 232(3622) recommended. The basic principles of histology. A survey of basic tissues and organ systems. Techniques associated with preparation of animal tissues for light microscopic studies. Three hours of lecture and three and one half hours of laboratory per week. (Additional lab hours arranged.) Fulfills both a lecture and a laboratory requirement

235(3642) Development (3)

Prerequisites: Biology 11(1811) and 12(1821). Basic principles of development from the point of view of growth, morphogenesis, and differentiation. Three hours of lecture per week.

237(3643) Development Laboratory (2)

Prerequisite: Biology 235(3642) (may be taken concurrently). Laboratory to accompany Biology 235(3642). Three and one-half hours of laboratory per week.

240(3202) Conservation Biology (3)

Prerequisite: Biology 11(1811) and 12(1821). Introduction to the principles and theories of conservation biology. Course topics include biodiversity, extinctions, population modeling, habitat fragmentation, conservation area management, restoration ecology, and social science elements of conservation strategies. Class sessions will include lectures, discussions, and simulation exercises. Three hours of lecture per week.

241(3203) Conservation Biology Laboratory (2)

Prerequisites: Biology 240(3202) (recommended to be taken concurrently). Laboratory to accompany Biology 240(3202). Laboratory will include computer simulations of conservation problems using existing software, 2-3 field trips to local conservation projects, and field interviews with governmental and non-governmental agencies. Three and one-half hours of laboratory per week.

246(3302) Introduction to Evolution (3)

Prerequisite: Biology 11(1811) and 12(1821); Bio 224(2012) strongly recommended. Introduction to the theory, events, and processes of organic evolution.

250(2501) Biology of Plants (5)

Prerequisites: Biology 11(1811) and 12(1821). A general discussion of the plant groups from algae through angiosperms. Plant morphology, physiology, reproduction, and ecology will be discussed in lecture (three hours per week). The laboratory (three and one half hours per week) involves examination of representatives of the plant kingdom and experimentation in plant physiology and genetics. Fulfills both a lecture and a laboratory requirement.

260(2402) Vertebrate Biology (3)

Prerequisite: Biology 11(1811) and 12(1821). Development, structure, function, interrelationships, and zoogeography of vertebrate animals with particular attention to phylogenetic aspects. Three hours of lecture per week.

262(2403) Vertebrate Biology Laboratory (2)

Prerequisite: Biology 260(2402) (may be taken concurrently). Laboratory to accompany Biology 260(2402). Morphological analysis and systematic survey of major vertebrate groups. Overview of the vertebrate life forms and their adaptations to habitats and resources. Three and one-half hours of laboratory per week.

264(2442) Invertebrate Biology (3)

Prerequisite: Biology 11(1811) and 12(1821). Structure and function of invertebrate animals with co-emphasis on evolution and phylogenetic interrelationships. A field trip to the Florida Gulf Coast will be offered but not required. Three hours of lecture per week.

266(2443) Invertebrate Biology laboratory (2)

Prerequisite: Biology 264(2442) (may be taken concurrently). Laboratory to accompany Biology

264(2442). Dissection and analysis of invertebrates with an emphasis on structure and function; includes field trips to area stations. A field trip to the Florida Gulf Coast will be offered but not required. Three and one-half hours of laboratory per week.

280(3102) Animal Behavior (3)

Prerequisite: Biology 11(1811) and 12(1821). The study of invertebrate and vertebrate behavior, including neurophysiological, hormonal, developmental, genetic, ecological and evolutionary aspects of behavior; behavior interactions within and between populations. Three hours of lecture per week.

282(3103) Animal Behavior Laboratory (2)

Prerequisite: Biology 280 (3102) (may be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of formal laboratory time per week, but additional time may be required for independent projects. Some activities involve field trips or trips to the St. Louis Zoo.

285(4985) Curriculum and Methods of Teaching Life Sciences (4)

(Same as SecEd 285(4985). Prerequisite: SecEd 213(3213) and a near-major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. The analysis of teaching/learning and field experience observations in secondary school classrooms will be integrated into classroom activities and discussions. This course must be completed in residence.

286(4986) Laboratory in Teaching Life Sciences (2)

(Same as SecEd 286(4986).) Prerequisite: SecEd 213(3213). Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285(4985)/SecEd 285(4985).

292(3920) Special Topics in Biology (1-5)

Prerequisites: Biology 11(1811) and 12(1821), junior standing, and consent of instructor or curriculum committee. Topics will vary each semester. Topics are available from the biology department office. This course may be used to satisfy requirements for elective biology courses for the B.A. or B.S. degree in biology; it cannot be substituted for core courses required for all majors. Credit arranged. May be taken up to two times for credit.

302(4980) Science in the Real World: Microbes in Action (2)

Prerequisites: Biology 11(1811) or Chem 11(1111) or equivalent course, and experience-teaching science at the middle school or high school level. A hands-on workshop in microbiology designed for secondary school science teachers interested in introducing microbiology to their students. Includes lectures on basic microbiology, laboratory exercises in microbiology for middle school or high school classroom, discussion sessions, and a session in the computer lab to familiarize teachers with microbiology resources on the Web. Open only to middle school and high school science teachers. Does not count as credit toward degree in biology.

314(4802) Environmental Physiology (3)

Prerequisite: Biology 213(3802). Physiological responses of animals to environmental changes. Adaptation of organisms to various environments. Three hours of lecture per week. Students may not receive credit for both Biology 314(4802) and 414(6802).

316(4482) Parasitology (3)

Prerequisite: Biology 11(1811), 12(1821), and 10 additional hours of biology and upper-division standing. Biology 232(3622) strongly recommended. A broadly based course emphasizing the phylogeny, life history, ecology, and physiology of parasites of medical and veterinary importance. Modern aspects of experimental parasitology, immunoparasitology, and parasite molecular biology will be addressed.

317(4842) Immunobiology (3)

Prerequisite: Biology 371(4712) and Chem 261(2612). The fundamental principles and concepts of immunology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours of lecture per week.

319(4843) Immunobiology Laboratory (2)

Prerequisite: Biology 317(4842) (may be taken concurrently). Basic experimental procedures in immunology. Introduction to experimental evidence underlying concepts in immunology. Three and one-half hours of laboratory per week.

320(4822) Introduction to Neuroscience (3)

Prerequisite: Biology 213(3802) or consent of instructor. The study of nervous systems, featuring the cellular bases of initiation and conduction of the impulse, synaptic transmission, and the network integrative function of invertebrate and vertebrate nervous systems. This course emphasizes the multidisciplinary nature of the neurosciences, including anatomical, physiological and molecular approaches to understanding neural function. Three hours of lecture per week.

322(4823) Laboratory Techniques in Neuroscience (2)

Prerequisite: Biology 320(4822) (must be taken concurrently). Experiments are designed to accompany Biology 320(4822), and will include the use of live animals and computer simulation of the physiological and biophysical properties of excitable membranes.

323 (3122) Tropical Resource Ecology (3)

Prerequisite: Biology 220(2102) and either Biology 246(3302) or 280(3102) or their equivalent, or consent of instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323(3122) and 423(5122). Three hours of lecture per week. Offered in odd numbered years.

324 (3123) Tropical Resource Ecology Field Studies (2)

Prerequisite: Biology 323(3122) (may be taken concurrently). The field component to the lecture and seminar course. Examines the patterns of use and exploitation of resources in the tropics by humans in the context of the theories of behavioral ecology. Two weeks of intensive field research and lectures in Guyana, South America during the second and third weeks of Summer Session I (trip costs to be borne by the student). Students may not receive credit for both Biology 324(3123) and Biology 424(5123). Offered in odd numbered years.

325(3145) Tropical Vertebrate Ecology (3)

Prerequisite: Biology 220(2102), and either Biology 280(3102) or 246(3302), or their equivalent, or consent of instructor. Explores the natural history and role of neotropical vertebrate individuals, populations, and communities in savanna and rainforest ecosystems. Three weeks of intensive natural history lecture, discussion and group and individual field studies in Guyana, South America during the second, third, and fourth weeks of Summer Session I (trip costs to be borne by the student). Students may not receive credit for both Biology 325(3145) and 425(5145). Offered in even numbered years.

326(4602) Molecular Biology (3)

Prerequisite: Biology 224(2012) and 371(4712). A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in the eukaryotic cells. Three hours of lecture per week. Students may not receive credit for Biology 326(4602) and either Biology 426(6602) or any course previously called Gene Expression in Eukaryotes or Advanced Gene Expression in Eukaryotes.

327(4614) Biotechnology Laboratory I (4)

Prerequisite: Biology 224 (2012) and Biology 218(2483), or consent of instructor. An introduction to the fundamental concepts that underlie the field of biotechnology. Both the basic principles of molecular biology and hands-on experience with the techniques of the field will be addressed through lectures, discussions, and a series of laboratory exercises. Two hours of lecture and four hours of laboratory per week. Fulfills a laboratory requirement only. May not be used to fulfill the 300-level lecture course requirement for the B.A. or B. S. degree in biology. Students may not receive credit for Biology 327(4614) and either a course previously called Introduction to Biotechnology or a comparable biotechnology course from another institution.

328(4615) Biotechnology Laboratory II (4)

Prerequisite: Biology 327(4614) and either Biology 326(4602) or Biology 338(4612), or consent of instructor. An in-depth look at theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Fulfills a laboratory requirement only; may not be used to fulfill the 300-level lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for Biology 328(4615) and either Biology 428 (6615) or any course previously called Techniques in Molecular Biology or Advanced Techniques in Molecular Biology.

333(4632) Nucleic Acid Structure and Function (3)

Prerequisite: Biology 224(2012) and 371(4712) or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture per week. Students may not receive credit for both Biology 333(4632) and 433(6632).

334(4652) Virology (3)

Prerequisite: Biology 216(2482) and 224(2012). A comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture per week. Students may not receive credit for both Biology 334(4652) and 434(6652)

335(4622) Molecular Cell Biology (3)

Prerequisites: Biology 326(4602), Biology 232(3622), and Biology 371(4712) or consent of instructor. A study of the structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture

per week. Students may not receive credit for both Biology 335(4622) and Biology 435(6622).

338(4612) Molecular Genetics of Bacteria (3)

Prerequisite: Biology 216(2482) and Biology 224(2012). A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students may not receive credit for Biology 338(4612) and either Biology 438(6612) or any course previously called Gene Expression in Prokaryotes or Advanced Gene Expression in Prokaryotes.

339(4642) Plant Molecular Biology and Genetic Engineering (3)

Prerequisite: Biology 326(4602) or 338(4612). Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant-microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture per week. Students may not receive credit for both Biology 339(4642) and 439(6642).

341(4182) Population Biology (3)

Prerequisite: Biology 220(2102) and 224(2012) (Biology 246(3302) recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. Three hours of lecture per week. Students may not receive credit for both Biology 341(4182) and 441(6182).

347(4299) Practicum in Conservation (2)

Prerequisite: Biology 240(3202) or consent of instructor. This course is generally restricted to students officially enrolled in the Certificate Program in Conservation Biology. The course provides practical experience with conservation or environmental agencies. Specific placement will be selected according to student's interests and career goals as well as availability of agency openings. Course requirements include practical experience and final report on practicum experience.

348(4112) Evolution of Animal Sociality (3)

Prerequisite: Biology 280(3102) or consent of instructor, Biology 220(2102) or 341(4182) recommended. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches to social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture, one hour of discussion per week. Students may not receive credit for both Biology 348(4112) and 448(6112).

351(4501) Flowering Plant Families: Phylogeny and Diversification (5)

Prerequisites: Biology 250(2501) or consent of instructor. Focusing on the flowering plant families of North America, the aim of the course is to give an understanding of their phylogeny and diversification. Student will also gain an understanding of plant morphology and anatomy, a basis for further developing their knowledge of plants. Three hours of lecture and three to four hours of laboratory per week. Students may need to return to the laboratory at unscheduled times.

353(4532) Sex and Evolution in the Flowering Plants (3)

Prerequisites: Biology 11(1811) or 12(1821) or equivalent; Biology 246(3302) or 250(2501) recommended. The evolution of flowers, and flowering plants, is the result of mutualistic plant-animal interactions. This course explores all aspects of the function of flowers, integrating findings and approaches from ecology, systematics, plant physiology, and animal behavior. flower color, scent, and nectar, deceptive pollination systems, pollen-stigma interactions and incompatibility systems, flowering plant mating systems (including selfing and apomixis), and pollination by insects, vertebrates, wind, and water. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors.

355(4552) Evolution and Phylogeny of Seed Plants (3)

Prerequisites: Biology 246(3302) or 250(2501) or equivalent. Examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment of morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Includes introduction to cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biology 355(4552) and Biology 455(6552).

360(4784) Techniques in Electron Microscopy (3)

Prerequisite: Biology 232(3622) and consent of instructor, Biology 234(3631) recommended. Discussion of electron microscopy and associated techniques. Students will learn techniques associated with the preparation of materials for electron microscopy and learn to operate and perform minor servicing of the electron microscope. This course fulfills a laboratory requirement for the B.A. or B.S. degree in biology; it may not be used to fulfill the 300-level lecture course requirement for the B.A. or B.S. in biology. Two hours of lecture per week and two hours of laboratory per week.

361(4785) Advanced Laboratory for Electron Microscopy (2)

Prerequisites: Biology 360(4784) (may be taken concurrently). Additional laboratory to accompany Biology 360(4784). Students may use the electron microscope to conduct specific research projects and/or to improve their proficiency in techniques associated with the electron microscope. Students may not use both Biology 360(4784) and Biology 361(4785) to fulfill the minimum number of laboratory courses required for the B.A. or the B.S. degree in biology. A minimum of four hours per week, to be arranged.

362(3322) History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)

(Same as History 245(3322)). Prerequisites: At least 3 biology courses beyond the introductory level or consent of instructor. Topics include principles of ethnobiological classification, Aristotle and Theophrastus and their incorporation in western science, and natural history in the Renaissance. Focuses on the breakup of natural history after 1750; integration of natural history and botany in popular culture and its consequences for professional disciplines; relationships between new botany and classification botany, among botany, zoology and biology at the end of 19th century, and between field and laboratory science; and conflict between systematic schools in later 20th century. Three hours of lecture per week. Paper or topic of student's choice required. Credit not granted for more than one of Biology 362(3322), History 245(3322), and Biology 462(5322).

364 (4402) Ornithology (3)

Prerequisite: Biology 220(2102) and junior standing. Introduction to avian biology and ecology. Material to be covered will include basic adaptations of anatomy, physiology, and behavior of birds. There will be a strong emphasis on avian ecology and conservation. Specific topics will include flight, reproductive behavior, migration, foraging behavior, community structure, and current conservation concerns. The diversity of birds will be emphasized through comparisons between temperate and tropical regions. Three hours of lecture per week.

365(5312) Theory of Systematics (3)

Prerequisites: Biology 11(1811) and 12(1821) and at least one course beyond introductory level dealing with animal, plant, or microbial diversity (such as Biology 216(2482), 250(2501), 260(2402), 316(4482), 351(4501), 364(4402), or 367(4422) or consent of instructor. Investigates theory of classification, phylogenetic analysis, systematic biology, and their relation to systematic practice. Covers goals and schools of systematics, characters, and homology, analysis of molecular and morphological data and underlying assumptions, species concepts, classification, naming, and connections between evolutionary biology and systematics. Appropriate for upper-level undergraduates and graduate students in all disciplines, animal, plant, and microbial, as introduction to systematic methods. Three hours of lecture per week.

366(4403) Ornithology Laboratory (2)

Prerequisite: Biology 364(4402) (may be taken concurrently) or consent of instructor. This course will introduce students to methods of identifying and studying birds. Labs will almost entirely be comprised of field trips to local areas and will emphasize diversity of birds, adaptations shown by different groups, and means of identification, particularly of birds found in Missouri. Field projects will focus on techniques for censusing birds, sampling foraging behavior, and studying habitat selection. Indoor periods will cover internal and external anatomy of birds. Slides and field trips to the St. Louis Zoo will be used to survey the diversity of birds worldwide. Three and one-half hours of laboratory per week. Longer (e.g., Saturday) field trips will be made when appropriate.

367(4422) Entomology (3)

Prerequisite: Biology 11(1811) and 12(1821); 9 additional hours of biology, and upper-division standing. Development, structure, function, behavior and ecology of insects, including a systematic survey of the orders of Insecta. Three hours of lecture per week.

368(4423) Entomology Laboratory (2)

Prerequisite: Biology 367(4422) (may be taken concurrently). Laboratory to accompany Biology 367(4422). Studies of the morphology, physiology, and behavior of insects to give a sampling of biological studies of the class Insecta. Formation of a collection of insects, comprising a systematic survey of orders and principal families, will be an integral part of the course and will require additional time beyond the official lab hours. Three and one-half hours of lab per week.

371(4712) Biochemistry (3)

(Same as Chemistry 371(4712)). Prerequisite: Chemistry 261(2612) and either Biology 11(1811) or Chem 262(2622). The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biology 371(4712) and Chemistry 371(4712). Biology 371(4712) may not be used

to fulfill the 300-level lecture course requirement for the B.S. in Biology.

375 (4713) Techniques in Biochemistry (2)

Prerequisite: Biology 371(4712) or Chemistry 371(4712) (may be taken concurrently). Laboratory activities introducing fundamental qualitative and quantitative biochemical techniques. Student evaluation will be based on laboratory participation, student laboratory reports, and written examinations. Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some experiments.

376(5712) Topics in Biochemistry (3)

Prerequisite: Biology 371(4712). Topics include control of cellular metabolism, membrane transport mechanisms of action of enzymes and hormones, and enzyme kinetics. Three hours of lecture per week.

378(5715) Protein Biochemistry Laboratory (2)

Prerequisite: Biology 375(4713) or consent of instructor. Exploration of various techniques and tools for purification, analysis, and characterization of proteins. Three and one-half hours of laboratory per week.

380(4102) Behavioral Ecology (3)

Prerequisite: Biology 280(3102) (Biology 220(2102) recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture per week. Students may not receive credit for both Biology 380(4102) and 480(6102).

382(4302) Biogeography (3)

Prerequisites: Introductory biology and at least one course beyond the introductory level dealing with animal, plant, or microbial diversity (such as Biology 216(2482), 250(2501), 260(2402), 264(2242), 316(4482), 351(4501), 364(4402) or 367(4422), or permission of the instructor. This course investigates the theory and practice of biogeographic research, and shows how biogeography integrates the disciplines of ecology, population biology, evolution, and systematics. The course will cover both traditional and quantitative approaches to the analysis of organisms' distributions, using examples from plants and animals. Students will analyze a published or original data set of their choice, using available biogeographic computer software. The course is appropriate for upper level undergraduates and graduate students in all disciplines of biology. Three hours of lecture per week. Students may not receive credit for both Biology 382(4302) and 482(6302).

383(4192) Introduction to Geographic Information Systems (3)

Prerequisite: Biology 220(2102), 388(4122) or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of geographically referenced data. This course provides a foundation in using GIS for spatial analysis. Students will have hands-on use of GIS software using UNIX-based computer workstations. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383(4192) and 483(6192).

384(4162) Evolutionary Ecology (3)

Prerequisites: Biology 246(3302) and 341(4182), or equivalent, or consent of instructor. The course will explore the use of evolutionary theory to interpret life-history adaptations of organisms, family and social interactions, coevolution, and macroevolution. Topics will include the evolution of sex, sexual selection, aging, parent-offspring conflict, evolution of pathogen virulence, artificial selection, and genetic modification of organisms. Students will also analyze data sets using computer software to highlight the application of game theory approaches and phylogenetically based comparative analysis to interpret patterns in nature. Three hours of lecture per week. Students may not receive credit for both Biology 384(4162) and 484(6162).

385(4202) Wildlife Ecology and Conservation (3)

Prerequisite: Biology 220(2102), and junior standing. This course will provide a basic survey of the ecological issues involved in conservation and management of wild animals. Topics will include population dynamics and regulation, habitat management, endangered species, wildlife legislation, predator-prey interactions, human-wildlife conflicts, sustainable use of wildlife. There will be a strong emphasis on temperate ecosystems, but many examples will be drawn from tropical ecosystems. Use of computer simulation models in wildlife conservation and management will be included. Three hours of lecture per week.

386(4203) Wildlife Ecology and Conservation Laboratory (2)

Prerequisite: Biology 385(4202) (may be taken concurrently) or consent of instructor. This course will provide field and laboratory experiences to accompany Biology 385(4202). Field trips will emphasize field research techniques, including methods for sampling animal populations and their habitat. Considerable emphasis will be placed on learning to identify common vertebrates of Missouri streams and forests. Laboratory periods will be used to discuss methods of data analysis, computer simulations, as well as further emphasis on identification. Three and one-half hours of lab per week. Several one- to two-day field trips will be required as well.

387(4222) Tropical Ecology and Conservation (3)

Prerequisite: Biology 220(2102), 341(4182), 442(5192) or equivalent. This course will cover research areas in tropical population, community and ecosystems ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and development of strategies leading to sustained use of nonrenewable resources. Students may not receive credit for both Biology 387(4222) and 487(6222). Three hours of lecture per week.

388(4122) Biometry (3)

Prerequisite: Math 30(1030) and a minimum of 15 hours in biology. Reviews descriptive, analytical, and experimental methods useful for the statistical study of biological phenomena. Students will develop the skills needed to better appreciate and evaluate the published literature, as well as the ability to design their own research programs. Topics include: the collection and summarization of biological observations; development, design, and testing of hypotheses; analysis and presentation of data. Three hours of lecture per week. Fulfills the statistics requirement for the B.A. or B.S. degree in biology.

389(4889) Senior Seminar (2)

Prerequisite: Senior standing. Required of biology majors. Oral and written presentation by students of selected scientific papers or articles. Students are expected to participate in discussions of oral presentations by other students. May not be taken for graduate credit.

390(4905) Research (1-3)

Prerequisite: Consent of the Biology 390(4905) course coordinator. Generally restricted to junior and senior standing. Research (laboratory and/or library) in an area selected by the student in consultation with and under the supervision of a faculty research adviser. Credit arranged. Course may be repeated for a total of up to 5 credit hours. No more than 2 credit hours may be applied toward the minimum number of biology course credits for the major in biology.

392(4920) Selected Topics (1-10)

Prerequisite: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics available in the department office. Credit arranged. May be taken more than once for credit.

395(4245) Field Biology (3)

Prerequisite: Three biology courses and consent of instructor. Intensive study of the flora and fauna of selected natural areas of North America, including an extended field trip. Details of the field trip and course Schedule will be posted in the Biology Department preceding registration for the term in which the course will be offered. Students will be required to pay costs of travel and of the field trip. This is a laboratory course appropriate for advanced undergraduates and non-thesis Master of Science students. Students may not receive credit for both biology 395(4245) and 440(6245).

396 (3182) Introduction to Marine Science (3)

Prerequisite: Biology 11(1811) and 12(1821) or their equivalents, (Biology 264(2442) and 266((2443) recommended). A multidisciplinary study of the ocean environment. Topics to include the geology of ocean basins, atmospheric and astronomic effects on the motion of water, chemical and physical properties of sea water, and the adaptations and diversity of marine organisms to their environment. Topics will include the ecology of various benthic and pelagic marine communities and human impact on the world's oceans. Offered in Winter Semester only.

398(3183) Introduction to Marine Science Laboratory (2)

Prerequisite: Biology 396(3182) and consent of instructor. An intensive laboratory and field study of selected North American marine communities. Based on a two-week field trip to Florida and offered during the Spring Intersession semester, following the lecture course (Biology 396(3182) of the preceding winter semester. Students must pay their own travel and living expenses.

399(4999) Science Teaching Intern Seminar (3)

Prerequisite: Biology 285(4985) and 286(4986). Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with SecEd 290(3290), Secondary School Student Teaching.

405(5059) Topics in Ecology, Evolution, and Systematics (1)

Prerequisite: Graduate standing. Presentation and discussion of current faculty and student research projects in behavior, ecology, evolution, and systematics. May be repeated for a maximum of 3 credit hours. One hour per week.

406 (5069) Topics in Molecular, Cellular and Developmental Biology (1)

Prerequisite: Graduate standing. Presentation and discussion of student and faculty research projects and/or current research articles in molecular, cellular and developmental biology. May be repeated for a maximum of 3 credit hours. One hour per week.

407 (5079) Topics in Floristic Taxonomy (1)

Prerequisite: Biology 250(2501) or equivalent, and graduate standing. Seminar course in systematics of higher plants, arranged in the Cronquist sequence of families, covering morphology, anatomy, palynology, biogeography, chemosystematics, cytology, and other aspects of plant classification and phylogenetics. Given at the Missouri Botanical garden. One hour per week.

414(6802) Advanced Environmental Physiology (3)

Prerequisite: Biology 213(3802). Advanced aspects of physiological responses of animals to environmental changes. Adaptation of organisms to various environments. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 314(4802) and 414(6802).

417(5842) Advanced Immunology (3)

Prerequisite: Biology 317(4842). Advanced consideration of techniques of measuring antigen-antibody interaction; immunogenetics as applied to cellular immunity and transplantation; evolution of the immune response. Three hours of lecture per week.

423(5122) Advanced Tropical Resource Ecology (3)

Prerequisite: Biology 220(2102), and either Biology 246(3302) or Biology 280 (3102) or their equivalent, or consent of the instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323(3122) and Biology 423(5122). Three hours of lecture, and one hour of discussion or seminar per week. Offered in odd numbered years.

424(5123) Advanced Tropical Resource Ecology Field Studies (2)

Prerequisite: Biology 423(5122) (may be taken concurrently). The field component to the lecture and seminar course. Examines the patterns of use and exploitation of resources in the tropics by humans in the context of the theories of behavioral ecology. Two weeks of intensive field research and lectures in Guyana, South America during the second and third weeks of Summer Session I (trip costs to be borne by student). Students may not receive credit for both Biology 424(5123) and Biology 324(3123). Offered in odd numbered years.

425(5145) Advanced Tropical Vertebrate Ecology (3)
 Prerequisite: Biology 220(2102), and either Biology 280(3102) or Biology 246(3302) or their equivalent, or consent of the instructor. Explores the natural history and role of neotropical vertebrate individuals, populations, and communities in savanna and rainforest ecosystems. Three weeks of intensive natural history lecture, discussion, and group and individual field studies in Guyana, South America during the second, third, and fourth weeks of Summer Session I (trip costs to be borne by student). Students may not receive credit for both Biology 425(5145) and Biology 325(3145). Offered in even numbered years.

426(6602) Advanced Molecular Biology (3)
 Prerequisite: Biology 224(2012) and 371(4712), or consent of instructor. A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in eukaryotic cell. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for Biology 426(6602) and either Biology 326(4602) or any course previously called Gene Expression in Eukaryotes or Advanced Gene Expression in Eukaryotes.

428(6615) Advanced Biotechnology Laboratory II (4)
 Prerequisite: Biology 327(4614) and either Biology 326(4602) or Biology 338(4612), or consent of instructor. An in-depth look at the theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for Biology 428(6615) and either Biology 328(4615) or any course previously called Techniques in Molecular Biology or Advanced Techniques in Molecular Biology.

431(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 490(6905) and internship). Internship will consist of period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours the student works each week and in consultation between the intern's supervisor and the instructor. Internship assignments will be commensurate with the education and experience of the student.

433(6632) Advanced Nucleic Acid Structure and Function (3)
 Prerequisites: Biology 224(2012) and 371(4712) or equivalent or consent of instructor. Comprehensive view

of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 333(4632) and 433(6632).

434(6652) Advanced Virology (3)
 Prerequisite: Biology 216(2482) and 224(2012). An advanced comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 334(4652) and 434(6652).

435(6622) Advanced Molecular Cell Biology (3)
 Prerequisite: Biology 326(4602), Biology 232(3622), and Biology 371(4712), or consent of instructor. A study of structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biology 435(6622) and Biology 335(4622).

438(6612) Advanced Molecular Genetics of Bacteria (3)
 Prerequisite: Biology 224(2012) and 216(2482). A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Student may not receive credit for Biology 438(6612) and either Biology 338(4612) or any course previously called Gene Expression in Prokaryotes or Advanced Gene Expression in Prokaryotes.

439(6642) Advanced Plant Molecular Biology and Genetic Engineering (3)
 Prerequisite: Biology 326(4602) or 338(4612). Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture and one hour of seminar per week. Student may not receive credit for both Biology 339(4642) and Biology 439(6642).

440(6245) Ecological Research in Temperate Zones (3)
Prerequisite: Graduate standing and consent of instructor. This course will visit several temperate ecosystems with the objectives of learning about the natural history of these areas together with learning how to design projects and conduct field research addressing current ecological theories in a temperate setting. Several faculty members will participate in this course. Temperate sites to be visited will likely include Missouri Ozarks, Great 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 Biology 395(4245) and 440(6245). Two hours of discussion (during weekday), four-six weekend field trips (leave Friday, return Sunday), and several (2-4) Saturday field trips during the first eight weeks of semester.

441(6182) Advanced Population Biology (3)
Prerequisites: Biology 220(2102) and 224 (2012) (Biology 246(3302) recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include: demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. A discussion section will focus on mathematical elements of population biology models. Three hours of lecture, and one hour of discussion per week. Students may not receive credit for both Biology 341(4182) and 441(6182).

442(5192) Population and Community Ecology (3)
Prerequisite: Biology 220(2102) or 341(4182) or their equivalents. Studies of structure and organization of natural communities stressing the abundance and distribution of species, the regulation of species diversity, and the evolution of demographic parameters in populations. Three hours of lectures per week.

445 (6250) Public Policy of Conservation and Sustainable Development (3)
(Same as Pol Sci 452(6452). Prerequisite: graduate standing in Biology or Political Science and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of the environmental policy-making in developing and developed economics.

446(6212) Theory and Application of Conservation Biology (3)
Prerequisite: Biology 341(4182), 442(5192), or equivalent; or consent of instructor. Prerequisites may be taken

concurrently. Advanced analysis of conservation theory with emphasis on conservation of populations, their genetic diversity, and the biodiversity of habitats. Applied aspects of conservation and sustainable development will be illustrated through case studies presented by conservation professionals.

447(6299) Internship in Conservation Biology (1-4)
Prerequisite: Biology 445(6250) or 446(6212) and consent of the director of graduate studies in Biology. Internships will consist of a period of study, observation, and on-the-job training at a conservation or environmental agency. Specific placements will be selected according to student's interests and career goals. Internships may vary from 2 weeks to 4 months in duration.

448(6112) Advanced Evolution of Animal Sociality (3)
Prerequisite: Biology 220(2102), or 341(4182) recommended or consent of instructor. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches of social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 348(4112) and Biology 448(6112).

453(6522) Evolution of Plant Development (3)
Prerequisites: Graduate standing and understanding of basic molecular biology, plant morphology and physiology, and phylogenetic theory, or consent of instructor. Covers plant developmental genetics and morphogenesis in an evolutionary context. Readings in literature on developmental genetics, phylogenetic relationships, developmental morphology, and molecular evolution of developmentally important genes. Topics may include evolution and development of embryos, seedlings, shoots, roots, vascular systems, sporangia, flowers, gametophytes, seeds, and fruit. Three hours of lecture and discussion per week.

455(6552) Advanced Evolution and Phylogeny of Seed Plants (3)
Prerequisites: Biology 246(3302) or 250(2501), or equivalent. Advanced approaches in examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment of morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Includes use of cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biology 355(4552) and Biology 455(6552).

462(5322) Advanced History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)

Prerequisites: At least 3 biology courses beyond the introductory level or consent of instructor. Topics include principles of ethnobiological classification, Aristotle and Theophrastus and their incorporation in western science, and natural history in the Renaissance. Focuses on breakup of natural history after 1750; integration of natural history and botany in popular culture and its consequences for professional disciplines; relationships between new botany and classification botany, among botany, zoology and biology at the end of 19th century, and between field and laboratory science; and conflict between systematic schools in later 20th century. Three hours of lecture per week. Comprehensive paper on topic of student's choice required. Credit not granted for more than one of Biology 362(3322), History 245(3322), and Biology 462(5322).

480(6102) Advanced Behavioral Ecology (3)

Prerequisite: Biology 280(3102) (Biology 220(2102) recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biology 380(4102) and 480(6102).

482(6302) Advanced Biogeography (3)

Prerequisites: Introductory biology and at least one course beyond the introductory level dealing with animal, plant, or microbial diversity (such as Biology 216(2482), 250(2501), 260(2402), 264(2442), 316(4482), 351(4501), 364(4402) or 367(4422), or permission of the instructor. This course investigates the theory and practice of biogeographic research, and shows how biogeography integrates the disciplines of ecology, population biology, evolution, and systematics. The course will cover both traditional and quantitative approaches to the analysis of organisms' distributions, using examples from plants and animals. Students will analyze a published or original data set of their choice, using available biogeographic computer software. The course is appropriate for upper level undergraduates and graduate students in all disciplines of biology. Graduate students will make in-class presentations on a topic appropriate to the course. Three hours of lecture per week. Students may not receive credit for both Biology 382(4302) and 482(6302).

483(6192) Applications of Geographic Information Systems (3)

Prerequisite: Biology 220(2102), Biology 388(4122) or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of

geographically referenced data. This course provides a foundation in using GIS for a spatial analysis. Examples from a wide range of disciplines are used to emphasize the use of GIS as a tool to support analysis and decision-making. Students will have hands-on use of GIS software using UNIX-based computer workstations. A formal research paper on GIS applications in biological research will be required. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383(4192) and 483(6192).

484 (6162) Advanced Evolutionary Ecology (3)

Prerequisites: Biology 246(3302) and 341(4182), or equivalent, or consent of instructor. The course will explore the use of evolutionary theory to interpret life-history adaptations of organisms, family and social interactions, coevolution, and macroevolution. Topics will include the evolution of sex, sexual selection, aging, parent-offspring conflict, evolution of pathogen virulence, artificial selection, and genetic modification of organisms. Students will also analyze data sets using computer software to highlight the application of game theory approaches and phylogenetically based comparative analysis to interpret patterns in nature. Graduate students will write a paper on a topic relevant to the course. Three hours of lecture per week. Students may not receive credit for both Biology 384(4162) and 484(6162).

485(5985) Problems in Teaching College Biology (3)

(Same as ADU ED 435(6435). Prerequisite: Teaching experience, 30 semester hours in biology, and consent of instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

486(5986) Techniques in Teaching College Biology for Graduate Students (2)

(Same as SEC ED 486(6986). Prerequisite: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student-teacher interaction. Recommended for all graduate students with teaching assistantships.

487(6222) Advanced Tropical Ecology and Conservation (3)

Prerequisite: Biology 220(2102), or 341(4182), or 442(5192), or their equivalent. This course will cover research areas in tropical population, community and ecosystem ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and developments of strategies leading to sustained use of nonrenewable resources. A research proposal designed to investigate current topic in tropical ecology will be required. Students may not receive credit for both Biology 387(4222) and 487(6222). Three hours of lecture per week.

489(6889) Graduate Seminar (2)

Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

490(6905) Graduate Research in Biology (1-10)

Research in area selected by student in consultation with faculty members.

491(6915) Graduate Research Practicum (1-2)

Prerequisite: Consent of instructor. This course is designed for graduate students wishing to pursue research experience in an area outside their dissertation topic. The project can be techniques-oriented or focused on a specific research question. The credit hours will depend on the time commitment to the project as decided by the supervisory faculty members.

492(6920) Topics in Biology (2-5)

In-depth studies of selected topics in contemporary biology. May be repeated. Three hours of lecture per week.

Department of Chemistry and Biochemistry**Faculty**

Gordon K. Anderson, Professor*, Chairperson
Ph.D., University of Glasgow

Lawrence Barton, Professor*
Ph.D., University of Liverpool

James S. Chickos, Professor*
Ph.D., Cornell University

Joyce Y. Corey, Professor*
Ph.D., University of Wisconsin

Wesley R. Harris, Professor*
Ph.D., Texas A. and M. University

David W. Larsen, Professor Emeritus*
Ph.D., Northwestern University

Robert W. Murray, Curators' Professor Emeritus*
Ph.D., Yale University

Valerian T. D'Souza, Associate Professor*
Ph.D., University of Detroit

Cynthia M. Dupureur, Associate Professor, Ph.D., Ohio State University

David L. Garin, Associate Professor Emeritus*
Ph.D., Iowa State University

Harold H. Harris, Associate Professor*
Ph.D., Michigan State University

Jane A. Miller, Associate Professor Emerita*
Ph.D., Tulane University

James J. O'Brien, Associate Professor*
Ph.D., Australian National University

Christopher D. Spilling, Professor*
Ph.D., The University of Technology, Loughborough

Keith J. Stine, Associate Professor*
Ph.D., Massachusetts Institute of Technology

Rudolph E. K. Winter, Associate Professor Emeritus*;
Ph.D., The Johns Hopkins University

Zhi Xu, Associate Professor*
Ph.D., University of Pittsburgh

Donald F. Becker, Assistant Professor*
Ph.D., University of Minnesota

Alexei F. Demchenko, Assistant Professor, Ph.D., Zelinsky Institute for Organic Chemistry, Moscow

F. Christopher Pigge, Associate Professor*,
Director of Graduate Studies
Ph.D., University of North Carolina

Joseph B. Dence, Adjunct Associate Professor
Ph.D., California Institute of Technology

Anthony Mannino, Adjunct Associate Professor
Ph.D., Ohio State University

William L. Neumann, Adjunct Associate Professor
Ph.D., University of Missouri-St. Louis

Robert G. Orth, Adjunct Associate Professor
Ph.D., Case Western Reserve University

Nigam P. Rath, Research Associate Professor
Ph.D., Oklahoma State University

William P. Ridley, Adjunct Associate Professor
Ph.D., University of Minnesota

Janet B. Wilking, Research Associate Professor*
Ph.D., Washington University

John Gutweiler, Lecturer
Ph.D., Saint Louis University

Technical Staff

Kenneth Owens, Glassblower

Joseph Kramer, Spectrometrist

Gordon Kerschmann, Electronics Technician

Donna Kramer, Coordinator, Laboratory Operations

Frank L. May, Research Investigator

Norman Windsor, Senior Electronics Technician

*members of Graduate Faculty

General Information**Degrees and Areas of Concentration**

The Department of Chemistry and Biochemistry offers courses leading to the B.A. in chemistry; the B.A. in chemistry with a biochemistry certificate; the B.S. in chemistry (chemistry or biochemistry option); in cooperation with the College of Education, the B.S. in education with emphasis in chemistry and the B.A. in chemistry with teacher certification.

The department is accredited by the American Chemical Society. Students completing the B.S. degree in chemistry are certified to the American Chemical Society and are well prepared for graduate study in chemistry or a career in the chemical industry.

The department also offers work leading to the M.S. degree in chemistry, with or without a thesis. The Ph.D. degree in chemistry is offered in the emphasis areas: inorganic, organic, physical, and biochemistry. In addition to a balanced program of basic graduate courses, the department offers special topics courses and seminars in current research areas. Research is being carried on in each of the above areas by faculty members, postdoctoral associates, and graduate and undergraduate students.

The department provides students with opportunities for strong interaction with faculty representing the various areas. Students and faculty working in one area consult freely with members in other areas. In addition, there are joint research projects involving faculty and students from two or more areas.

Fellowships and Scholarships

William and Erma Cooke Chemistry Scholarships are given annually to outstanding full-time chemistry majors who are at least sophomores and have financial need.

The Lawrence Barton Scholarship is given annually to a chemistry major who is enrolled in at least 9 credit hours per semester. Preference is given to juniors and to first-

generation college students, and to students who demonstrate financial need.

The Barbara Willis Brown Scholarship for Women in Chemistry is given to a female student over the age of 24, who is a chemistry major and has completed at least 60 credit hours. The student is expected to work with a faculty member on an undergraduate research project.

The Eric G. Brunngraber Memorial Scholarship is given to a chemistry major based on GPA, statement of research interests, and performance in completed course work.

Aid to Education Scholarships are given to junior or senior chemistry majors annually. The awardees are selected by the faculty on the basis of merit, and the scholarships consist of a stipend for books, educational materials, and Student Affiliate membership dues to the American Chemical Society.

The Mallinckrodt Fellowship is given annually to an outstanding chemistry doctoral student who has completed the teaching and course work component of the program. It consists of a full stipend for the academic year.

The M. Thomas Jones Fellowship is given each semester to the graduate student who is deemed by his/her peers to have presented the best research seminar.

The Graduate Research Accomplishment Prize is given annually. The recipient is chosen based on his/her publications, presentations at professional meetings, and seminars given at UMSL.

Alumni Graduate Research Fellowships are available for summer study for selected chemistry graduate students.

Several undergraduate awards are given each year to outstanding students. The Chemical Rubber Company Freshman Chemistry Award is given to the outstanding student in introductory chemistry, the American Chemical Society Division of Analytical Chemistry Award is given to the outstanding student in analytical chemistry, the American Chemical Society-St. Louis Section, Outstanding Junior Chemistry Major Award is given to the outstanding junior chemistry major, and the outstanding senior receives the Alan F. Berndt Outstanding Senior Award and the American Institute of Chemists Award.

Departmental Honors The Department of Chemistry and Biochemistry will award departmental honors to those B.A. and B.S. degree candidates in chemistry with an overall grade point average of 3.2. They must also successfully complete Chemistry 290(3905), Chemical Research, and must have presented an acceptable thesis.

Undergraduate Studies

General Education Requirements

Students must satisfy the university and college general education requirements. Courses in chemistry may be used to meet the university's science and mathematics area requirement. The college's foreign language requirement fulfills the departmental requirements for B.A. candidates. It is recommended that candidates for the B.S. degree fulfill the language requirement in German or French, but any language, which meets the college requirement for the B.A. degree, is acceptable. Chemistry majors normally include Language 101 in their foreign language sequence.

Satisfactory/Unsatisfactory Restrictions Chemistry majors may not take required chemistry, mathematics, or physics courses on a satisfactory/unsatisfactory basis, nor may B.S. degree candidates take the 2 elective hours in science on this option.

Degree Requirements

Bachelor of Arts in Chemistry This degree is intended primarily for preprofessional students in health science and related areas, as well as prelaw students interested in patent law. Candidates must complete the following chemistry courses:

11(1111), Introductory Chemistry I
12(1121), Introductory Chemistry II
122(2223), Quantitative Analysis
202(3022), Introduction to Chemical Literature
231(3312), Physical Chemistry I
232(3322), Physical Chemistry II
233(3333), Physical Chemistry Laboratory
241(2412), Basic Inorganic Chemistry
261(2612), Organic Chemistry I
262(2622), Organic Chemistry II
263(2633), Organic Chemistry Laboratory
289(4897), Seminar (1 credit)

In addition, candidates must complete one laboratory course chosen from Chemistry 234.(4343), 323(4233), 343(4433), 364(3643), or 373(4733).

No more than 45 hours in chemistry may be applied toward the degree. Each chemistry major must present a seminar and pass a comprehensive examination during the senior year. The Department of Chemistry and Biochemistry may require students to pass a tracking test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Bachelor of Arts in Chemistry with a Biochemistry Certificate

The university offers a certificate program for science majors who are interested in careers in biochemistry. This

is an interdisciplinary program that involves additional courses in biochemistry and biology. In addition to the usual requirements for the B.A. degree in chemistry, the student must take the following courses:

Chemistry

371(4712), Biochemistry
372(4722), Advanced Biochemistry
373(4733), Biochemistry Laboratory
376(4764), Interdisciplinary Topics in Biochemistry or
377(4772), Physical Biochemistry

Biology

11(1811), Introductory Biology I
224(2012), Genetics
232(3622), Cell Structure and Function
326(4602), Molecular Biology or
327(4614), Biotechnology Laboratory I

Students may obtain a minor in biology by adding Biology 12(1821) to the curriculum described above. The Biology department also offers a certificate in biochemistry.

Bachelor of Science in Chemistry.

This is the first professional degree in chemistry. It may be taken as a terminal degree by students intending to become professional chemists or for preparation for graduate work in chemistry or biochemistry. Students may choose to specialize in chemistry or biochemistry.

Chemistry Option

Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry courses are required:

234(4343), Physical Chemistry Laboratory II
321(4212), Instrumental Analysis
323(4233), Laboratory in Instrumental Analysis
341(4412), Inorganic Chemistry I
343(4433), Inorganic Chemistry Laboratory
364(3643), Advanced Organic Chemistry Laboratory
371(4712), Biochemistry

Students must also take two elective hours of advanced work in chemistry at the 200 level or above. Students are encouraged to take Chem 290(3905), Chemical Research, to fulfill the advanced elective requirement.

Biochemistry Option

Candidates must complete the requirements for the B. A. degree in chemistry. In addition, the following chemistry and biology courses are required:

Biology

11(1811), Introductory Biology
224(2012), Genetics or
232(3622), Cell Structure and Function

Chemistry

321(4212), Instrumental Analysis
323(4233), Laboratory in Instrumental Analysis
341(4412), Inorganic Chemistry I
371(4712), Biochemistry
372(4722), Advanced Biochemistry
373(4733), Biochemistry Laboratory
376(4764), Interdisciplinary Topics in Biochemistry, or
377(4772), Physical Biochemistry or
3 credits of Chemistry 290(3905): Chemical Research, or
3 credits of Biology 390(4905): Research.

If either research option is chosen, the project must be in biochemistry and must include a written final report submitted to the Department of Chemistry and Biochemistry.

Fifty-one hours of chemistry courses may be applied toward the degree. Each candidate must present a seminar and pass a comprehensive examination during the senior year.

Related Area Requirements

Bachelor of Arts and Bachelor of Science in Chemistry

Candidates for both degrees must also complete:
Math 80(1800), Analytic Geometry and Calculus I
Math 175(1900), Analytic Geometry and Calculus II
Math 180(2000), Analytic Geometry and Calculus III
Physics 111(1011), Physics: Mechanics and Heat
Physics 112(1012), Physics: Electricity, Magnetism, and Optics

B.S. degree in Secondary Education with an Emphasis in Chemistry

All candidates must enroll in a program that includes Levels I, II, and III course work in the College of Education. In addition, students must complete the following Science Core Courses and those listed under Chemistry Endorsement:

Science Core Courses:

Philosophy 280(3380), Philosophy of Science
Biology 11(1811), Introductory Biology I
Biology 12(1821), Introductory Biology II
Chemistry 11(1111), Introductory Chemistry I
Chemistry 12(1121), Introductory Chemistry II
Geology 1(1001), General Geology
Atmospheric Science 001(1001), Elementary Meteorology
Biology 120(1202), Environmental Biology, or another environmental science
Physics 111(1011), Physics: Mechanics and Heat
Physics 112(1012), Physics: Electricity, Magnetism, and Optics

Chemistry Endorsement

Chemistry 122(2223), Quantitative Analysis
Chemistry 231(3312), Physical Chemistry I
Chemistry 261(2612), Organic Chemistry I

Chemistry 262(2622), Organic Chemistry II
Chemistry 263(2633), Organic Chemistry Laboratory
Chemistry 371(4712), Biochemistry
Chemistry 280(4802) or Education 240(3240), Methods of Teaching Science in Secondary Schools
Chemistry 283(4837), Teaching Intern Seminar
Bachelor of Arts in Chemistry with Teacher Certification 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:

Chemistry

11(1111), Introductory Chemistry I
12(1121), Introductory Chemistry II
122(2223), Quantitative Analysis
261(2612), Organic Chemistry I
263(2633), Organic Chemistry Laboratory

One course from the following list must be completed:

Chemistry

231(3312), Physical Chemistry I
241(2412), Basic Inorganic Chemistry
262(2622), Organic Chemistry II
371(4712), Biochemistry (same as Biology 371(4712))

Courses, which are prerequisites to subsequent courses in the minor, may not be taken on a satisfactory/unsatisfactory basis. A GPA of at least 2.0 is required for the courses presented for the minor. At least three courses toward the minor must be completed at UM-St. Louis.

Graduate Studies

Admission Requirements

Individuals with at least the equivalent of the B.A. degree in chemistry may be admitted to the Graduate School as candidates for the M.S. degree or as precandidates for the Ph.D. degree in chemistry. A student in the M.S. program, having completed at least 15 credit hours, may request to transfer to the Ph.D. program by petition to the department.

The department admissions committee, which makes admission recommendations to the chairperson, usually considers applicants' grade point averages and normally requires above-average performance in all areas of chemistry as well as physics and mathematics, or other evidence of high aptitude for graduate work in chemistry. Applicants' GRE scores, letters of recommendation, and academic programs are also considered. In some cases the

committee may require successful completion of undergraduate course work as a condition of enrollment as a regular student.

Students with bachelor's degrees in fields other than chemistry may be admitted to pursue graduate studies in chemistry, but they must make up background deficiencies, usually by taking undergraduate course work.

Financial Support

Teaching assistantships are available to qualified applicants. Research assistantships and fellowships are available for advanced students. For further information, contact the Graduate Studies Committee, Department of Chemistry and Biochemistry.

Preliminary Advisement

Students who have been admitted for graduate work in chemistry will be contacted by the Director of Graduate Studies in order to develop a tentative plan of study which takes into consideration the student's background and interests. Entering students are required to demonstrate proficiency at the undergraduate level in four areas of chemistry (organic, inorganic, physical, and analytical).

Proficiency may be demonstrated in one of the following ways:

- Outstanding performance in recent undergraduate course work.
- Satisfactory performance in standardized placement examinations. These examinations are given twice a year, approximately one week before the beginning of the fall and winter semesters.
- Successful completion of assigned course work.

The ultimate choice of whether students may enroll in the M.S. or Ph.D. degree programs resides with the chemistry faculty.

Distribution Requirement Students must take chemistry courses for graduate credit at the 300 or 400 level, including at least one in three of the four areas of chemistry: organic, inorganic, physical, and biochemistry. Inorganic Chemistry I (Chem 341(4412)) may not be used to satisfy this distribution requirement.

Master's Degree Requirements

Master of Science in Chemistry Candidates for the M.S. degree in chemistry must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within two years of initial enrollment.

A minimum of 30 hours is required, including 3 hours in Chem 489(6897) Chemistry Colloquium. No more than 3 hours in Chem 489(6897) may be applied toward the required minimum of 30 credit hours. Students are not required to take the cumulative examinations.

Master of Science in Chemistry with Thesis Students selecting this option must be enrolled full-time for at least two consecutive semesters. During this time, students are expected to enroll in Chem 490(6905), Graduate Research in Chemistry, and work on their theses. A maximum of 12 hours of Chemistry 490(6905) may be applied toward the required 30 hours. At least 9 hours must be at the 400 level, excluding Chemistry 490(6905). A maximum of 9 hours in 200-level or above courses outside the department may be accepted if students receive prior approval of their advisers and the department. Students are expected to follow all other general requirements of the Graduate School regarding master's degree and thesis requirements.

Master of Science without Thesis Unlike the thesis option, students need not be enrolled full-time. Of the required 30 hours, 15 credits must be at the 400 level. A maximum of 6 credits of Chemistry 490(6905), Graduate Research in Chemistry, may be included in place of 300-level courses. A maximum of 12 hours taken in 200-level or above courses outside the department may be accepted with prior approval of the Director of Graduate Studies.

Doctoral Degree Requirements

Incoming doctoral students must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within one year of initial enrollment. A minimum of 60 hours is required, including research hours.

Cumulative Examinations In addition to the Ph.D. requirements set forth by the Graduate School, students seeking the Ph.D. in chemistry must take a series of cumulative examinations given eight times a year. Students must pass at least two examinations per year and a total of eight examinations by the end of their third year in the Ph.D. program. At least six of these examinations should be in the student's specialization area. The examinations are usually given the second Saturday of each month, September through April. The mechanism for designing and deciding on passing and failing grades for each examination resides with faculty members in each specialization area.

Seminar Requirement Students must present a seminar in their third year and during each subsequent year. The third year seminar may be the defense of the doctoral dissertation proposal. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 489(6897), Chemistry Colloquium, each semester they are in residence.

Advancement to Candidacy In addition to general Graduate School requirements for advancement to candidacy, students must complete the following:

1) 21 hours of nondissertation work. This may not include:

Chem 321(4212), Instrumental Analysis

Chem 323(4233), Laboratory in Instrumental Analysis

Chem 341(4412), Inorganic Chemistry I

Chem 343(4433), Inorganic Chemistry Laboratory

Chem 419(6196), Advanced Reading in Chemistry

Chem 448(6487), Inorganic Problem Seminar

Chem 468(6687), Organic Problem Seminar

Chem 478(6787), Biochemistry Problem Seminar

Chem 481(6812), Introduction to Graduate Study in Chemistry

Chem 482(6822), Introduction to Graduate Research in Chemistry

Chem 489(6897), Chemistry Colloquium

but should include at least one in three of the four areas of chemistry: organic, inorganic, physical, and biochemistry. Courses in areas other than chemistry may be included with prior departmental approval.

2) Pass eight cumulative examinations.

3) Present at least one seminar to the department on the dissertation research.

4) Participate in the undergraduate academic program as a teaching assistant for at least one semester.

5) Be in good standing.

Dissertation

Four copies of the dissertation must be submitted upon completion of the graduate research problem.

Probation and Dismissal

Students are dismissed from the program if they fail to pass the required number of cumulative examinations before the end of each year as precandidates for the Ph.D. or otherwise fail to meet the standards set forth by the Graduate School.

Career Outlook

The B.S. degree in chemistry is the usual foundation for graduate study in chemistry, while any bachelor's degree in chemistry provides students with professional competence to enter the chemical industry. The St. Louis metropolitan area is a major center for industrial chemistry, and the demand for graduates consistently exceeds the supply. A major in chemistry provides students with excellent preprofessional training in the health sciences. A double major in chemistry and biology is often chosen by premedical and predoctoral students and those interested in graduate work in biochemistry and biology. A minor in chemistry provides the minimum qualifications and training for a position as a laboratory technician in industry, hospital laboratories, etc.

Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult your adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

1(1082), 9(1091), 10(1011), 11(1111), 12(1121), 13(1134), 122(2223), 202(3022), 231(3312), 232(3322), 233(3333), 234(4343), 241(2412), 261(2612), 262(2622), 263(2633), 289(4897), 290(3905), 321(4212), 323(4233), 341(4412), 343(4433), 364(3643), 365(4652), 371(4712), 372(4722), 373(4733), 376(4764), 377(4772), 381(3814).

1(1082) General Chemistry I (3) [MI, MS]

Prerequisite: Satisfactory score on math placement test. A broad introductory survey of chemical principles. Chem 1 001(1082)-plus Chem 9(1091) are equivalent to Chem 11(1111). This alternative may be attractive to students who are not mathematically prepared for Chem 11(1111). Chemistry majors may not include both Chem 1(1082) and 11(1111) in the 120 hours required for graduation. Three hours of lecture per week.

5 (1052) Chemistry for the Health Professions (4) [MI, MS]

An introduction to general, nuclear, structural organic, organic reactions and biochemistry. This course is designed primarily for students in nursing and related health professions, and should not be taken by students majoring in the physical or biological sciences. Chemistry majors may include neither Chemistry 5(1052) nor 6(1062) in the 120 hours required for graduation. Four hours of lecture per week.

6(1062) Organic and Biochemistry for the Health Professions (2) [MI, MS]

Prerequisites: any college chemistry course. An introduction to organic reactions and biochemistry. Chemistry 6(1062) is offered during the second half of the semester. Four hours of lecture per week.

9(1091) General Chemistry II (3) [MI, MS]

Prerequisites: Chem 1(1082) (or equivalent or consent of instructor) and Mathematics 30 and 35(1030/1035) (may be taken concurrently). Additional work on the topics of Chem 1(1082), with emphasis on quantitative material. Introduction to the chemical laboratory. Chem 1(1082) plus Chem 9(1091) is equivalent to Chem 11(1111) for science majors. Chemistry majors who receive credit for Chem 1(1082) and Chem 9(1091) may not also include Chem 10(1011) or Chem 11(1111) in the 120 hours

required for graduation. No student may take both Chem 3 and Chem 9(1091) for credit. Two hours of lecture per week, three and one-half hours of lab or one hour of discussion on alternate weeks.

10(1011) Chemistry in the Environment and Everyday Living (3) [MI, MS]

This course examines the role of chemistry in everyday life and in the environment, and is intended for students not pursuing scientific or engineering majors. Chemical principles are introduced to the extent necessary for understanding of issues, but this course does not provide the basis for further technical courses. Two hours of lecture per week; on alternate weeks, one hour of discussion or two hours of laboratory.

11(1111) Introductory Chemistry I (5) [MS]

Prerequisites: Mathematics through college algebra and trigonometry (may be taken concurrently). Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate some aspects of qualitative and quantitative analysis and to develop skills in laboratory procedures. Chemistry majors may not include both Chem 1(1082) and 11(1111), nor both Chem 10(1011) and 11(1111) in the 120 hours required for graduation. Three hours of lecture and one hour of discussion per week; one hour of laboratory-lecture and three hours of laboratory per week.

12(1121) Introductory Chemistry II (5) [MI, MS]

Prerequisite: Chem 11(1111) or advanced placement. Lecture and laboratory are a continuation of Chem 11(1111). Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

13(1134) Special Topics in Introductory Chemistry (1-5)

Prerequisite: Consent of instructor. A lecture or laboratory course to assist transfer students in meeting the requirements of Chem 11(1111) and 12(1121).

122(2223) Quantitative Analysis (3) [C, MI, MS]

Prerequisite: Chem 12(1121). Principles and practice of elementary quantitative chemistry. The lecture treats descriptive statistics with emphasis on small samples; various types of competing equilibria pertaining to acid-base, complexometric and potentiometric titrations; and an introduction to spectrophotometric processes. The laboratory provides exercises in titrimetric, gravimetric, and spectrophotometric techniques. Both portions of the course deal with the analytical chemistry of environmentally-significant problems. Two hours of lecture and four and one-half hours of laboratory weekly.

202(3022) Introduction to Chemical Literature (1)

Prerequisite: Chem 262(2622) (may be taken concurrently) and Chem 241(2412). The course will familiarize the student with the literature of chemistry and its use. One hour of lecture per week.

231(3312) Physical Chemistry I (3)

Prerequisites: Chem 122(2223) and Math 180(2000). Principles of physical chemistry including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy, and quantum mechanics. Three hours of lecture per week.

232(3322) Physical Chemistry II (3)

Prerequisite: Chem 231(3312). Continuation of Chem 231(3312). Three hours of lecture per week.

233(3333) Physical Chemistry Laboratory I (2)

Prerequisite: Chem 231(3312) (may be taken concurrently). Experiments designed to illustrate principles introduced in Chem 231(3312). One hour of lecture and four and one-half hours of laboratory per week.

234(4343) Physical Chemistry Laboratory II (2)

Prerequisites: Chem 232(3322) (may be taken concurrently) and 233(3333). Experiments designed to illustrate principles introduced in Chem 232(3322). One hour of lecture and four and one-half hours of laboratory per week. Not for graduate credit.

241((2412) Basic Inorganic Chemistry (2) [MI, MS]

Prerequisites: Chem 12(1121). Review of principles of atomic structure, covalent and ionic bonding. Properties of the elements and synthesis, reactions and bonding aspects of important compounds of main group and transition metal elements.

261(2612) Organic Chemistry I (3) [MS]

Prerequisite: Chem 12(1121). An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

262(2622) Organic Chemistry II (3) [MI, MS]

Prerequisite: Chem 261(2612). A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

263(2633) Organic Chemistry Laboratory (2) [C, MS]

Prerequisite: Chem 261(2612) or consent of instructor. An introduction to laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds. One hour of lecture and four and one-half hours of laboratory per week.

280(4802) Curriculum and Methods of Teaching Physical Sciences (3)

(Same as SEC ED 240(3240).) Prerequisites: SEC ED 213(3213) and a near major in the subject. A study of the scope and sequence of the physical science courses in the

school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

283(4837) Chemistry / Physics Teaching Intern Seminar (1)

(Same as Physics 283(4833).) Prerequisite: Chem 280(4802) or Physics 280(4800). A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290(3290). One-hour discussion per week.

289(4897) Seminar (1)

Prerequisites: Chem 202(3022) and senior standing. Presentation of papers by students, faculty, and invited speakers. Chemistry majors must enroll during the semester in which they intend to graduate. Completion of a comprehensive examination is a course requirement. One hour of lecture and one hour of discussion per week.

290(3905) Chemical Research (1-10)

Prerequisite: Consent of instructor. Independent laboratory and library study, in conjunction with faculty member, of fundamental problems in chemistry. A written report describing the research is required.

321(4212) Instrumental Analysis (2)

Prerequisite: Chem 232(3322). Principles and applications of modern methods of instrumental analysis for analytical chemistry measurements. Topics will be selected from the areas of electrochemistry, absorption and emission spectroscopy, chromatography, mass spectrometry, surface analysis, and nuclear magnetic resonance. Two hours of lecture per week.

323(4233) Laboratory in Instrumental Analysis (2)

Prerequisites: Chem 321(4212) and 233(3333). Experiments designed to illustrate the principles and practices of instrumental analysis, involving the use of modern instrumentation in analytical chemistry applications. One hour of discussion and four and one-half hours of laboratory per week.

341(4412) Inorganic Chemistry I (3)

Prerequisites: Chem 232 (may be taken concurrently), 241(2412) and 262(2622). An introduction to the chemistry of the elements, including atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Three hours of lecture per week.

343(4433) Inorganic Chemistry Laboratory (2)

Prerequisites: Chem 233(3333), 341(4412) and 364(3643) (364(3643) may be taken concurrently). The more sophisticated techniques of physical and analytical chemistry will be used to study inorganic compounds and their reactions. One hour of lecture and four and one-half hours of laboratory per week. Not for graduate credit.

364(3643) Advanced Organic Chemistry Laboratory (2)

Prerequisites: Chem 202(3022). Identification of organic compounds by classical and spectroscopic methods; advanced techniques in synthesis and separation of organic compounds. One hour of lecture and four and one-half hours laboratory per week. Not for graduate credit.

365(4652) Spectroscopic Identification of Organic Compounds (3)

Prerequisite: Chem 364(3643). An applied approach to the use of spectroscopic techniques in organic chemistry. Topics to include integrated applications of infrared and Raman spectroscopy, nuclear magnetic resonance (^{13}C and ^1H , cw and pulsed) and mass spectroscopy for the purpose of elucidating the structure of organic compounds. Three hours of lecture per week.

371(4712) Biochemistry (3)

(Same as Biology 371(4712)) Prerequisite: Chem 261(2612) and either Biology 11(1811) or Chem 262(2622). The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biology 371(4712) and Chemistry 371(4712). Biology 371(4712) may not be used to fulfill the 300-level lecture course requirement for the B.S. in Biology.

372(4722) Advanced Biochemistry (3)

Prerequisite: Chem 371(4712). Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

373(4733) Biochemistry Laboratory (2)

Prerequisite: Chem 371(4712) (may be taken concurrently). Laboratory study of biochemical processes in cellular and subcellular systems with emphasis on the isolation and purification of proteins (enzymes) and the characterization of catalytic properties. One hour of lecture and three and one-half hours of laboratory per week.

376(4764) Interdisciplinary Topics in Biochemistry (3)

Prerequisites: Chem 371(4712); Chem 372(4722) strongly recommended. Includes advanced studies of enzyme mechanisms, the role of metal ions in enzymatic and non-enzymatic processes, and the application of computational chemistry to biological systems. Three hours of lecture per week.

377(4772) Physical Biochemistry (3)

Prerequisite: Chem 231(3312) or Chem/Bio 371(4712). Designed to acquaint students with concepts and methods in biophysical chemistry. Topics that will be discussed include protein and DNA structures, forces involved in protein folding and conformational stability, protein-DNA interactions, methods for characterization and separation of macromolecules, electron transfer, and biological spectroscopy. Three hours of lecture per week.

381(3814) Special Topics (1-10)

Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics.

414(5142) Molecular Spectroscopy (3)

Prerequisite: Chem 232(3322). A broad treatment of the interaction of electromagnetic radiation with matter, emphasizing the unity of such interactions. Interpretation of molecular rotational, vibrational and electronic spectra in terms of geometric structure and dynamics. Description and interpretation of physical techniques used to obtain molecular spectra. Three hours of lecture per week.

416(5162) Chemical Applications of Group Theory (3)

Prerequisite: Chem 232(3322). A brief introduction to the fundamental relationships of group theory and molecular symmetry. Application of group theory to molecular orbital theory, molecular vibrations, and molecular spectra. Three hours of lecture per week.

419(6196) Advanced Reading in Chemistry (1)

Prerequisite: Admission to the Ph.D. degree program. Reading and examinations in the subdisciplines of chemistry. Enrollment must begin after completion of any course deficiencies.

430(5302) Advanced Physical Chemistry (3)

Prerequisite: Chem 232(3322). Covers advanced topics in physical chemistry. May include but is not limited to properties of solids and liquids, gas/solid and solid/liquid interfacial chemistry, optical and electron spectroscopy, and chemical dynamics. Three hours of lecture per week.

432(5322) Application of Thermodynamics and Reaction Kinetics in Chemistry (3)

Prerequisite: Chem 232(3322). Review of equilibrium thermodynamics. Focus is on statistical thermodynamics and reaction kinetics with an emphasis on solution phase chemistry. Three hours of lecture per week.

435(5452) Quantum Mechanical Foundations of Spectroscopy (3)

Prerequisites: Chem 232(3322). A review of relevant principles and techniques of quantum mechanics. Focus is on the use of quantum theory and molecular symmetry (group theory) to understanding the structure and interpreting the spectra of atoms and molecules. Three hours of lecture per week.

439(5394) Special Topics in Physical Chemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in physical chemistry. May be taken more than once for credit.

441(5412) Typical Element Chemistry (3)

Prerequisite: Chem 341(4412) or an equivalent course. Chemistry of the main group elements and their compounds including such topics as electron deficient compounds, acids, bases and nonaqueous solvents, catenation and inorganic polymers, the solid state, organotypical element chemistry and energetics. Three hours of lecture per week.

442 (5422) Coordination Chemistry (3)

Prerequisite: Chem 341(4412) or an equivalent course. Chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability and electronic spectra. Three hours of lecture per week.

443(5432) Spectroscopic Methods in Inorganic Chemistry (3)

Prerequisites: Chem 341(4412) or an equivalent course. Study of modern spectroscopic characterization methods of particular importance to inorganic systems, with emphasis on such techniques as multinuclear NMR spectroscopy, UV/visible and EPR spectroscopy, IR/Raman spectroscopy, and Mossbauer spectroscopy. Application of such methods to questions of structure, bonding and reactivity. Three hours of lecture per week.

445(5452) Organometallic Chemistry of the Main Group Elements (3)

Prerequisites: Chem 341(442) or an equivalent course. A systematic study of main group 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.

446(5462) Organometallic Chemistry of the Transition Elements (3)

Prerequisites: Chem 341(4412) or an equivalent course. A study of the transition metal compounds containing metal-carbon bonds and related metal-element bonds, including their synthesis, structure and bonding, and reactions. Applications in organic synthesis and catalysis will also be presented. Three hours of lecture per week.

448(6487) Problem Seminar in Inorganic Chemistry (1)

Prerequisite: Consent of the inorganic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

449(5494) Special Topics in Inorganic Chemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in inorganic chemistry. May be taken more than once for credit.

460(5602) Advanced Organic Chemistry I - Physical Organic (3)

Prerequisites: Chem 262(2622) and 232(3322) Mechanism and theory of organic chemistry. Topics to include kinetics, transition state theory, reaction intermediates, and stereochemical analysis. Three hours of lecture per week

461(5612) Advanced Organic Chemistry II - Reactions and Synthesis (3)

Prerequisite: Chem 262(2622). Examination of a variety of organic transformations typically utilized in organic synthesis. Topics will include carbon-carbon bond formation, pericyclic reactions, oxidation, reduction, and functional group interconversions. Mechanism and stereochemistry will be emphasized. Three hours of lecture per week

468(6687) Problem Seminar in Organic Chemistry (1)

Prerequisite: Consent of the organic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students, and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program

469(5694) Special Topics in Organic Chemistry (3)

Prerequisite: Consent of instructor. Advanced topics of special current interest. May be taken more than once for credit. Topics that may be offered include: methods of organic synthesis, organometallics in organic synthesis, topics in bioorganic chemistry, organic thermochemistry, natural products chemistry, stereochemistry, photochemistry, heterocyclic chemistry, medicinal chemistry.

478(6787) Problem Seminar in Biochemistry (1)

Prerequisites: Consent of the biochemistry staff. Problems from the current literature, presentations and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

479(5794) Special Topics in Biochemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.

481(6812) Introduction to Graduate Study in Chemistry (1)

Prerequisite: Consent of Graduate Adviser. Topics to be covered include: techniques of teaching of Chemistry in colleges and universities, methods of instruction and evaluation; and responsibilities of the Graduate Teaching Assistant in laboratory instruction; safety in the undergraduate laboratory, safety practices, emergency procedures; selection of research project and thesis adviser.

482(6822) Introduction to Graduate Research in Chemistry (1)

Prerequisites: Consent of Graduate Adviser. Topics include: safety in the research laboratory, safety practices, emergency procedures, hazardous materials, waste disposal, radiation safety; research ethics; chemistry information retrieval, computer assisted information retrieval, types of databases, searching bibliographic data bases.

489(6897) Chemistry Colloquium (1)

Presentation of papers by students, faculty, and invited speakers. One hour per week.

490(6905) Graduate Research in Chemistry (1-10)

Department of Criminology and Criminal Justice

Faculty

Richard B. Rosenfeld, Professor*, Chairperson,
Ph.D., University of Oregon
Robert Bursik, Professor*
Ph.D., University of Chicago
G. David Curry, Professor*
Ph.D., University of Chicago
Scott H. Decker, Professor*
Ph.D., Florida State University
Janet L. Lauritsen, Professor*
Ph.D., University of Illinois-Urbana
Richard Wright, Professor*,
Ph.D., Cambridge University
Bruce A. Jacobs, Associate Professor*
Ph.D., University of Southern California
David Klinger, Associate Professor*
Ph.D., University of Washington
Jody Miller, Associate Professor*
Ph.D., University of Southern California
Allen E. Wagner, Associate Professor Emeritus
Ph.D., Washington University
Eric Baumer, Assistant Professor*
Ph.D., State University of New York at Albany
Norman A. White, Assistant Professor*
Ph.D., State University of New York at Albany
Rodney Brunson, Instructor, ABD, University of Illinois-Chicago
Timothy Maher, Lecturer
M.A., University of Missouri-St. Louis
Norman Malloy, Lecturer
M. A., University of Missouri-St. Louis
Margaret Phillips, Lecturer
Ph.D., Saint Louis University

*members of Graduate Faculty

Criminology and criminal justice faculty represent several academic disciplines. By integrating practice with theory, faculty are able to present a comprehensive picture of crime and the justice system. This nexus of theory and application is found most directly in the department's emphasis on understanding policy in criminology and criminal justice. All components of crime and justice are represented in the curriculum including criminal behavior, delinquency, crime prevention, arrest, prosecution, defense, court processing, probation, prison, and parole. A special feature of the program is the cadre of local professionals who supplement the regular faculty. A federal appeals-court judge, local prosecutor, correctional supervisor, and probation supervisor are among this group.

General Information

Degrees and Areas of Concentration The department offers courses leading to the Bachelor of Science, the Master of Arts, and Ph.D., in criminology and criminal justice.

Cooperative Programs Faculty of the criminology and criminal justice department hold appointments as fellows in the Center for Metropolitan Studies, the Center for International Studies and the Institute for Women's and Gender Studies. Workshops, projects, credit courses, and other social services are brought to the criminal justice community.

Internships Majors are strongly encouraged to participate in CCJ 280, Internship in Criminology and Criminal Justice, during their junior or senior year. The internship affords students the opportunity to gain experience in a criminal justice agency under the joint supervision of agency personnel and criminology and criminal justice faculty.

Minor in Criminology and Criminal Justice The minor gives recognition to those students from other major areas who find that criminology and criminal justice courses fit their academic or professional needs and/or interests.

Undergraduate Studies

General Education Requirements Majors must satisfy the university and college general education requirements. Courses used to fulfill the social science or state requirement may not be taken from courses in the major. Foreign language proficiency is not required, although students are encouraged to take foreign language courses. Majors may not take the following courses on a satisfactory/unsatisfactory basis: criminology and criminal justice courses; Sociology 220, Quantitative Techniques in Sociology; or Sociology 230, Research Methods. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken on a satisfactory/unsatisfactory basis.

Degree Requirements

Courses used to fulfill the social science or state requirements may not be taken from courses in the major.

Students may register for 300-level courses only after obtaining a signature from the adviser in criminology and criminal justice. All prerequisites must be satisfied prior to enrolling in a course.

CCJ majors may not take course numbers 010(1100), 260(2260), or 345(3345) offered through UM-Independent Studies to fulfill degree requirements in the major.

Bachelor of science in criminology and criminal justice candidates must complete the core curriculum listed below:

Core Curriculum The following courses in criminology and criminal justice are required:
10 (1100), Introduction to Criminology and Criminal Justice
110(1110), Theories of Crime
120(1200), Criminal Law
130(1130), Criminal Justice Policy
210(2210), Research Methods in Criminology and Criminal Justice
220(2220), Statistical Analysis in Criminology and Criminal Justice
390(4390), Seminar in Criminology and Criminal Justice

One additional 200 level or above course in Criminology and Criminal Justice.

Two courses from the following four:

230(2230), Crime Prevention
240(2240), Policing
260(2260), Corrections
270(2270), Juvenile Justice

Two courses at the 300 level:

300(4300), Communities and Crime
305(3305), Comparative Criminology and Criminal Justice
310(3310), Computers in Criminal Justice
315(5515), Ethics in Criminology and Criminal Justice
320(4320), Forms of Criminal Behavior
325(4325), Gender, Crime, and Justice
330(3043), History of Crime and Justice
335(4335), Probation and Parole
340(4340), Race, Crime, and Justice
345(3345), Rights of the Offender
350(4350), Victimology
380(4380), Special Topics in Criminology and Criminal Justice

Elective Courses

99(1990), The City
180, Alcohol, Drugs and Society
227(2227), Urban Law: Poverty and the Justice System
Prerequisite: Administration of Justice 70 or equivalent, or consent of instructor.
280(3280), Internship in Criminology and Criminal Justice
290(3290), Special Readings

Requirements for the Minor The minor has been designed to ground students in the basics of criminology and criminal justice.

All minor candidates must take:

10(1100), Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:

110(1110), Theories of Crime
120(1120), Criminal Law
130(1130), Criminal Justice Policy

Candidates must then complete 6 hours of criminology and criminal justice course work at the 200 level or above.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. None of the courses may be taken on a satisfactory/unsatisfactory (s/u) basis.

Graduate Studies

Master of Arts in Criminology and Criminal Justice The department offers a master of arts degree in criminology and criminal justice, which provides students with advanced theoretical and methodological training for research and management careers in criminal justice.

Admission Requirements The minimum GPA for regular admission to graduate study is 2.75 on a 4-point scale. However, students may be admitted under restricted status with a GPA of 2.5.

Students admitted with a 2.5 to 2.75 GPA will be reviewed after completing 6 credit hours of graduate work. Admission is competitive.

Degree Requirements The M.A. in criminology and criminal justice requires the completion of 33 credit hours, at least 18 of which are in criminology and criminal justice. All students must satisfy a 15-hour core course requirement. Additionally, M.A. candidates must take at least two of four graduate "option" courses offered by the department. Students may choose between a thesis and non-thesis course of study.

Core Curriculum

400(6400), Proseminar: Criminology and Criminal Justice
405(6405), Methods
410(6410), Statistics
415(5415), Foundations of Criminological Theory
420(6420), Contemporary Criminological Theory

Two of the following four courses

451(6451), Juvenile Justice System
452(6452), The Police
453(6453), Adjudication
454(6454), Corrections

Transfer Courses Transfer courses are evaluated for acceptance on a case-by-case basis subject to the rules and regulations of the Graduate School.

Application to the Ph.D. Program

Eligibility Undergraduate applicants must have a baccalaureate degree or expect one by the end of the academic year in which they apply. Applicants must have a grade point average of 3.0 or greater (on a scale of A = 4.0) for the last 60 hours of undergraduate work.

Graduate applicants who have or will have a master's degree must have a grade point average of 3.0 or greater (on a scale of A = 4.0) for their graduate course work.

Application To consider an applicant for admission, the Department of Criminology and Criminal Justice must have transcripts, three letters of recommendations, GRE scores and a writing sample. Applicants with master's degrees should include a chapter of their thesis. International students whose native language is not English are required to submit scores from the TOEFL examination.

Amount of Course Work Sixty post-baccalaureate hours of graduate work are required for the Ph.D. More than half of these hours must be completed in residence. Twelve credit hours of dissertation research (CCJ 499(7499)) are required. Students may enroll for dissertation credits (CCJ 499(7499)) only when all other degree requirements have been completed.

Required courses for the Ph.D. are:

- 400(6400), Proseminar
 - 405(6405), Methods
 - 410(6410), Statistics
 - 415(5415), Foundations of Criminological Theory
 - 420(6420), Contemporary Criminological Theory
 - 440(6440), Nature of Crime
 - 450(6450), Criminal Justice Organization
 - 465(6465), Qualitative Research Design
 - 470(6470), Quantitative Research Design
 - 471(6471), Evaluating Criminal Justice Interventions
 - 475(5475), Evaluation Research Methods
 - 480(6480), Multivariate Statistics
- Students are also required to complete at least 9 hours from the following courses:
- 430 (6430), Law and Social Control
 - 431(6431), The Nature of Punishment
 - 432(6432), Criminal Law
 - 433(5533), Philosophy of Law
 - 434(6434), Human Rights
 - 435(6422), Law, Courts, and Public Policy
 - 436(6436), Comparative Legal Systems
 - 437(6437), Private Justice
 - 441(6441), Juvenile Delinquency
 - 442(6442), Communities and Crime
 - 443(6443), Violent Crime
 - 444(6444), Organizational Crime
 - 445(6445), Property Crime
 - 446(6446), Sex Crime
 - 447(6447), Public Order Crime

- 448(6448), Victimization
- 451(6451), Juvenile Justice Systems
- 452(6452), The Police
- 453(6453), Adjudication
- 454(6454), Corrections
- 455(5555), Ethical and Legal Issues in Criminal Justice

Additional courses beyond the above requirements are taken as elective courses. These courses may be at the 300- or 400-level. Students are also encouraged to take courses outside the Department of Criminology and Criminal Justice.

Comprehensive Examination Graduate students in the Ph.D. program cannot become recognized as Ph.D. candidates until they have passed the comprehensive examination. The goals of the comprehensive examination are to assess the student's familiarity with substantive literature, theory and methods of criminology and criminal justice and to evaluate the student's intellectual imagination and ability to apply knowledge to broad criminological questions.

The qualifying examination will consist of two parts—the first focusing on crime and criminality and the second on either law and social control or criminal justice. The choice of the second part is made by the student. Each will integrate theory and methods into the substantive literature.

Part one of the exam will consist of a six-hour examination without access to notes or external references. Part two will be a 48-hour, non-collaborative, take-home examination. The student will pick which subject area is taken under which testing format.

Other information about the qualifying exam is available from the department.

The Dissertation The dissertation is required of all Ph.D. candidates and demonstrates the student's scholarly expertise. The dissertation process formally begins when all other requirements of the Ph.D. program have been met. The dissertation committee assists in selecting and developing the research problem and evaluates the student's work on that problem.

Career Outlook

The orientation of the criminology and criminal justice faculty and of the degree program prepares the graduate to work professionally for local, state, and federal agencies concerned with maintaining public safety by the prevention of crime and apprehension and rehabilitation of offenders. The B.S. in criminology and criminal justice is also advantageous for careers with various social agencies, especially those connected with the juvenile court system, probation and parole, and local police. Many students use the B.S. in criminology and criminal justice as preparation for law school.

The interdisciplinary curricula unify a body of knowledge from criminology, social science, law, public administration, and corrections, giving a unique preparation for and providing the student with an understanding of the assumptions, values, and processes of the system of justice.

Many prelaw students choose criminology and criminal justice as an undergraduate major because of the excellent preparation offered for law school. An internship program is offered for college credit. The liaison, supervision, and experience with public agencies that form an integral part of this program help the student arrive at a career decision.

Course Descriptions

Prerequisites may be waived by consent of the department or instructor.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

10(1100), 20(1200), 75(1075), 99(1990), 110(1110), 120(1120), 130(1130), 180(2180), 210(2210), 220(2220), 226(2226), 230(2230), 240(2240), 260(2260), 270(2270), 290(3290), 300(4300), 305(3305), 310(3310), 315(5515), 320(4320), 325(4325), 330(3043), 335(4335), 340(4340), 345(3345), 350(4350), 380(4380), 390(4390).

The following courses fulfill the Humanities breadth of study requirements: 152(2252).

10(1100) Introduction to Criminology and Criminal Justice (3)

Introduction to the basic concepts and approaches in the study of criminology and criminal justice. The major components of the criminal justice system are examined. Course fulfills the state requirement.

20(1200) Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]

(Same as ID 20(1200), and PoliSci 20(1200). As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

75(1075) Crime and Punishment (3)

(Same as Sociology 75(1075) and Interdisciplinary 75(1075). An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

99(1990) The City (3) [MI, V, SS]

(Same as PolSci 99(1990), Sociology 99(1999), and Interdisciplinary 99(1990). Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

110(1110) Theories of Crime (3)

Prerequisite: CCJ 10(1100). Introduction to major theoretical approaches to the study of crime and justice.

120(1120) Criminal Law (3)

Prerequisite: CCJ 10(1100). Analysis of substantive criminal law, evidence and judicial procedure.

130(1130) Criminal Justice Policy (3)

Prerequisite: CCJ 10(1100). Introduction to criminal justice policy making, planning, and implementation.

152(2252) Philosophical Foundations of Criminal Justice (3) [V]

(Same as Philosophy 152(2252). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from 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.

180(2180) Alcohol, Drugs, and Society (3)

(Same as Sociology 180(2180). Prerequisite: Sociology 10(1010) or Psych 3(1003). This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

210(2210) Research Methods in Criminology and Criminal Justice (3)

Prerequisite: CCJ 10(1100). Examination of basic methods of research design, measurement and data collection in criminology and criminal justice.

220(2220) Statistical Analysis in Criminology and Criminal Justice (3)

Prerequisites: CCJ 210(2210) and math university math requirement. An introduction to techniques of quantitative data analysis. Both descriptive and inferential statistics are applied to problems in criminology and criminal justice.

226(2226) Law and the Individual (3)

(Same as PolSci 226(2260). Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policy-making and dispute resolution. Course fulfills the state requirement.

230(2230) Crime Prevention (3)

Prerequisite: CCJ 10(1100). Examination of situational, social, and legislative approaches to the prevention of crime and delinquency. Emphasis on theories, implementation and consequences of these approaches.

233(4487) Philosophy of Law (3)

Prerequisite: CCJ 10(1100) and 3 hours of philosophy and/or consent of instructor. (Same as Philosophy 387(4920) An examination of typical problems raised by law, including the basis of legal obligations and rights, relations between law and morality, the logic of legal reasoning, and the justification for punishment. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

240(2240) Policing (3)

Prerequisite: CCJ 10(1100). Overview of current and historical perspectives on the function of American policing. Emphasis on the management of police organizations and relationships with the community.

260(2260) Corrections (3)

Prerequisite: CCJ 10(1100). Examination of correctional philosophies and practices. Emphasis on the history of correction, the formal and informal organization of correction facilities, inmate rights, and correctional alternatives.

270(2270) The Juvenile Justice System (3)

Prerequisite: CCJ 10(1100). Examination of formal and informal responses to juvenile delinquency. Emphasis on theories of delinquency and the decision-making processes of police, court and probation officials.

280(3280) Internship in Criminology and Criminal Justice (3)

Prerequisite: Junior standing. Internship under faculty supervision in criminal justice setting.

290(3290) Special Readings (1-6)

Prerequisite: Consent of instructor. Individualized study, under regular faculty supervision, designed to meet particular educational needs of selected students.

300(4300) Communities and Crime (3)

(Same as Sociology 300(4300). Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(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.

305(3305) Comparative Criminology and Criminal Justice (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), 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.

310(3310) Computers in Criminal Justice (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Use of computers, data base systems, and software applications in research and professional practice.

315(5515) Ethics in Criminology and Criminal Justice (3)

(Same as Philosophy 315(5515). Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), Philosophy 153(2253), 154(2254), 156(2256), 330(4430), 335(4435), 338(4438), or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

320(4320) Forms of Criminal Behavior (3)

(Same as Sociology 320(4320). Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of and responses to these crimes.

325(4325) Gender, Crime, and Justice (3)

(Same as Sociology 325(4325). Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(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.

330(3043) History of Crime and Justice (3)

(Same as History 320(3043) Prerequisites: Junior Standing or consent of instructor; CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220). 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.

335(4335) Probation and Parole (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), 260(2260), or consent of instructor. Analysis of alternatives to incarceration and postincarceration supervision. Emphasis on diversion, restitution, and community reintegration.

340(4340) Race, Crime, and Justice (3)

(Same as Sociology 340(4340). Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

345(3345) Rights of the Offender (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of the objectives of criminal law regarding the rights of persons suspected or convicted of crime. Emphasis on rights regarding the police, the court, and in correctional settings.

350(4350) Victimology (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of major perspectives on victimization. Emphasis on patterns of victimization, the role of victims in the generation of crime, and the experience of the victim in the criminal justice system.

380(4380) Special Topics in Criminology and Criminal Justice (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2110), 220(2220). In-depth study of a selected topic in criminology and criminal justice.

390(4390) Seminar in Criminology and Criminal Justice (3)

Prerequisites: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), and senior standing. In this capstone course, students demonstrate the ability to work independently, integrating theory and research in criminology and criminal justice in a major paper supervised by the instructor.

400(6400) Proseminar (3)

Prerequisite: Graduate standing. (Must be taken in the first semester.) A critical examination of theoretical, methodological and policy issues in criminology and criminal justice. Focus is on the nature of crime, policing, pretrial processes, adjudication, and corrections.

405(6405) Methods (3)

Prerequisites: Graduate standing. Examination of basic methods for research design and data collection. Topics include participant observation and interviewing, survey research, aggregate data analysis, and experimental design.

410(6410) Statistical Applications in Criminology and Criminal Justice (3)

Prerequisites: CCJ 405(6405). Examination of elementary principles of quantitative analysis and their application to crime and justice problems. Topics include univariate, bivariate and multivariate procedures for discrete and continuous data, and a comprehensive introduction to ordinary least squares regression.

415(5415) Foundations of Criminological Theory (3)

(Same as Sociology 415(5415). Prerequisite: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420(6420) Contemporary Criminological Theory (3)

Prerequisite: CCJ 415(5415). Examination of contemporary explanations of crime and criminal justice. Theories covered include strain, control, cultural, labeling, conflict, as well as more recent attempts at theoretical integration and multidisciplinary integration.

430(6430) Law and Social Control (3)

(Same as Sociology 461(5461). Prerequisites: Graduate standing and consent of instructor. Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

431(5531) The Nature of Punishment (3)

(Same as Philosophy 431(5531) Prerequisite: Graduate standing. Or consent of instructor. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

433(5533) Philosophy of Law (3)

(Same as Philosophy 433(5533). Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

434(6434) Human Rights (3)

Prerequisite: Graduate standing or consent of instructor. Examination of human rights from historical and cross cultural perspectives. Topics include capital and corporal punishment, political prisoners, rights of the accused, and rights of those imprisoned.

435(6422) Law, Courts, and Public Policy (3)
(Same as PolSci 422(6422). Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

436(6436) Comparative Legal Systems (3)
Prerequisite: Graduate standing or consent of instructor. Examination of crime and criminal justice systems in world perspective.

437(6437) Private Justice (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the private sector's impact on formal criminal and juvenile justice systems, as well as the development of private security and informal justice systems. Financial incentives, moral and legal issues are explored.

440(6440) Nature of Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of patterns and correlates of crime at the individual, situational, and aggregate levels. Topics include definitions of crime, offending typologies, and criminal careers.

441(6441) Juvenile Delinquency (3)
Prerequisite: Graduate standing or consent of instructor. Examination of youth crime and juvenile offenders. Topics include definitions of juvenile crime, and theories of juvenile crime causation in the United States

442(6442) Communities and Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the trends and sources of crime and social disorder across communities. The course emphasizes relationships among crime, fear of crime, neighborhood change, neighborhood responses to crime, and public policies.

443(6443) Violent Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the sources and patterns of violent offending across time and space. Topics include conceptions and typologies of violent crimes and offenders, victim-offender relationships, and efforts to predict and control violent offending.

444(6444) Organizational Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of crime by and within groups. Focuses on the types of criminal behavior known as organized crime, white collar crime, and political corruption.

445(6445) Property Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the sources and patterns of property offending across time and space. Topics include conceptions and typologies of property crimes and offenders, victim-offender relationships, and efforts to predict and control property offending.

446(6446) Sex Crime (3)
Prerequisite: Graduate standing and consent of instructor. Examination of consensual and non-consensual sexual offending. Topics include historical development of laws regulating sexual conduct, controversies surrounding the application of these laws, and the nature and distribution of sexual offenses.

447(6447) Public Order Crime (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the nature of, prevalence of, and efforts to control public order crimes such as gambling, illicit drug use, prostitution, vagrancy, and disorderly conduct. The function of public order crimes as a means to control disruptive or threatening persons and groups is emphasized.

448(6448) Victimization (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the risks and consequences of crime for its victims. Issues considered include victim-offender relationships, characteristics of victims, the nature of the injuries they experience and criminal justice procedures that involve them.

450(6450) Criminal Justice Process and Policy (3)
Prerequisite: Graduate standing. An analysis of criminal justice as a network of decisions and complex organizations. Topics include sources of criminal justice policy, policy agendas, implementation and evaluation.

451(6451) Juvenile Justice Systems (3)
Prerequisite: Graduate standing. An examination of the historical evolution of juvenile justice and the processes by which specific behaviors are identified as delinquent. Informal responses to delinquency also are explored.

452(6452) The Police (3)
Prerequisite: Graduate standing or consent of instructor. Historical, social and political analysis of policing in America. Examination of federal, state, county, and municipal agencies.

453(6453) Adjudication (3)
Prerequisite: Graduate standing or consent of instructor. Examination of the objectives, institutions and processes involved in the adjudication of offenders. Topics address the structure and function of the judicial system and principal court actors.

454(6454) Corrections (3)

Prerequisite: Graduate standing or consent of instructor. Examination of the history, forms, and functions of correctional philosophies, institutions, programs, and policies. Topics include the structure and functions of prisons and jails, community corrections, intermediate sanctions, and the growth of correctional control in modern society.

455(5555) Ethical and Legal Issues in Criminal Justice (3)

(Same as Philosophy 455(5555)). Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology and research and professional ethics.

465 (6465) Qualitative Research Design (3)

Prerequisite: Graduate standing. Examination of participant observation and informant and respondent interviewing. Topics include gaining access, sampling, data collection and analysis, and legal and ethical concerns.

470(6470) Quantitative Research Design (3)

Prerequisite: CCJ 405(6405) and CCJ 410(6410). Examination of experimental, longitudinal, and cross-sectional designs. Sources of data, sampling procedures, operational definitions, and issues of reliability are also discussed.

471(6471) Evaluating Criminal Justice Interventions (3)

Prerequisites: CCJ 405(6405) and CCJ 410(6410). This course examines a broad range of interventions designed to prevent crime or improve some aspect of the criminal justice system. The validity, reliability, and feasibility of differing intervention designs are addressed. Several major criminal justice evaluations are discussed.

475(5475) Evaluation Research Methods (3)

(Same as Psych 475(5475), Sociology 475(5475), and Public Policy Administration 475(6750)). Prerequisites: At least one course in Research Design and Statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

480(6480) Multivariate Statistics (3)

Prerequisite: CCJ 410(6410). Introduction to the general linear model with applications to multivariate problems in criminology and criminal justice. Topics include advanced ordinary least squares, causal modeling, time series analysis, simultaneous equations, and analysis of limited dependent variables.

485(6485) Directed Readings/Research in Criminology and Criminal Justice (1-6)

Prerequisite: Consent of Instructor. Directed reading and research, under faculty supervision, designed to meet particular educational needs of selected students.

495(6495) Internship in Criminology and Criminal Justice (3)

Prerequisite: Graduate standing or consent of instructor. Supervised placements with criminal justice agencies. Designed primarily for students with limited field experience.

498 (6498) M.A. Thesis Research (1-6)

Prerequisites: Graduate standing and consent of instructor.

499 (7499) Ph.D. Dissertation Research (1-6)

Prerequisite: Graduate standing or consent of instructor. To be arranged.

Department of Economics

Faculty

Susan K. Feigenbaum, Professor*, Chairperson
Ph.D., University of Wisconsin
Sharon G. Levin, Professor*; Director of Graduate
Studies; Assistant Chairperson
Ph.D., University of Michigan
Lawrence H. White, Professor; Friedrich A. Hayek
Professor in Economic History
Ph.D., University of California, Los Angeles
Thomas R. Ireland, Professor*
Ph.D., University of Virginia
Joseph P. McKenna, Professor Emeritus
Ph.D., Harvard University
William E. Mitchell, Professor Emeritus
Ph.D., Duke University
Donald Phares, Professor*
Ph.D., Syracuse University
David C. Rose, Professor*
Ph.D., University of Virginia
Robert L. Sorensen, Professor*, Director of
Undergraduate Studies
Ph.D., Virginia Polytechnic Institute
Clinton A. Greene, Associate Professor*
Ph.D., University of California-Davis
Donald J. Kridel, Associate Professor*
Ph.D., University of Arizona
Timothy McBride, Associate Professor*
Economics, Public Policy Administration, and
Gerontology
Ph.D., University of Wisconsin-Madison
Herbert D. Werner, Associate Professor Emeritus*
Ph.D., University of California-Berkeley
Anne Winkler, Associate Professor*, Economics and
Public Policy Administration
Ph.D., University of Illinois at Urbana-Champaign
Debin Ma, Assistant Professor
Ph.D., University of North Carolina
Sarapage McCorkle, Assistant Professor*; Director,
Center for Entrepreneurship and Economic Education
Ed.D., University of Missouri-St. Louis
Michael T. Allison, Senior Lecturer
A.B.D., University of Virginia
Kathleen Phares, Senior Lecturer
M.A., University of Missouri-St. Louis
*members of Graduate Faculty

General Information

Degrees and Areas of Concentration Several degree programs are offered by the economics department. The B.A. in economics provides a flexible liberal arts orientation for students. The B.S. in economics places more emphasis upon developing the analytical and quantitative skills used in analysis. Both degrees can be tailored to meet the career interests of the student.

The economics faculty considers research an integral part of good teaching. Research projects in recent years have dealt with energy, public choice, industrial organization, nonlinear modeling, property rights, wage discrimination, urban economic development, health economics and aging, economics of science, economics of gender, poverty and welfare, and government regulations.

The economics department also offers courses at the undergraduate level in geography.

A graduate program offers work leading to the M.A. degree in economics in preparation for careers in teaching, research, government, and industry. The program includes course work in macroeconomic theory, urban, international, industrial, and quantitative economics; and research methodology. The program can accommodate prospective full-time students as well as those who wish to study part-time solely in the evening. Classes are small, and student-faculty interaction is encouraged.

The economics department cooperates with the College of Business Administration and the Master's in Public Policy Administration program.

Departmental Honors A student may earn departmental honors with a GPA of 3.6 in economics and the recommendation of the department.

Minor in Economics A minor in economics is also available. See the following section for requirements.

Undergraduate Studies

General Education Requirements

All undergraduate economics majors must meet the university and college general education requirements. Candidates for the B.A. degree may take any foreign language to meet this requirement. Candidates for the B. S. degree take mathematics and quantitative courses instead of the foreign language requirement. Courses in economics may be used to meet the university social sciences requirement.

Education majors specializing in economics must fulfill the requirements for the bachelor of arts degree. These majors are responsible for obtaining an adviser in the Department of Economics.

All prerequisites for economics courses must be completed with a C- or better.

Satisfactory/unsatisfactory Option

Courses outside the major field and Economics 51(1001), Principles of Microeconomics, and Economics 52(1002), Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory basis.

Degree Requirements

Bachelor of Arts in Economics Candidates for the B.A. degree must take at least 33, but no more than 45, hours in economics. At least 27 hours must be above the 100 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:
51(1001), Principles of Microeconomics
52(1002), Principles of Macroeconomics
220(3200), Money, Banking, and Monetary Theory
251(3001), Intermediate Economic Theory:
 Microeconomics
252(3002), Intermediate Economic Theory:
 Macroeconomics
265(3100), Economic Statistics
380(3800), History of Economic Thought

Bachelor of Science in Economics

Candidates for the B.S. degree must complete at least 36, but no more than 45, hours in economics. At least 30 hours must be above the 100 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:
51(1001), Principles of Microeconomics
52(1002), Principles of Macroeconomics
220(3200), Money, Banking, and Monetary Theory
251(3001), Intermediate Economic Theory:
 Microeconomics
252(3002), Intermediate Economic Theory:
 Macroeconomics
265(3100), Economic Statistics
365(4100), Introduction to Econometrics
Math 80 (1800), Analytic Geometry and Calculus I, or
Math 100(1100), Basic Calculus

Also required are two of the following:

350(4150), Mathematical Economics
352(4040), Analysis of Business Cycles
353(4030), Managerial Economics
366(4110), Applied Econometrics
367(4130), Econometric and Time Series Forecasting
or any mathematics course numbered 175(0175) 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 390)(4990).

Graduate School Preparation:

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

Math 175(1900), Analytical Geometry and Calculus II
Math 180(2000), Analytical Geometry and Calculus III
Math 245(2450), Linear Algebra
Math 320(4200), Mathematical Statistics

General Business Preparation:

It is recommended that students interested in pursuing careers in business also take:

BA 140(2400), Fundamentals of Financial Accounting
BA 145(2410), Managerial Accounting
BA 156(2900), Legal Environment of Business
BA 204(3500), Financial Management
BA 206(3700), Basic Marketing

Requirements for the Minor. Candidates for a minor in economics must take a minimum of 18 hours in economics. At least 12 hours must be above the 100 level. Econ 265(3100), Economic Statistics, cannot be counted towards the economics minor if the student has also taken Math 31(1310), Math 132(1320), BA 105, or the equivalent.

The following courses are required:

51(1001), Principles of Microeconomics
52(1002), Principles of Macroeconomics
251(3001), Intermediate Economic Theory:
 Microeconomics

It is also recommended that students take Econ 252(3002), Intermediate Economic Theory: Macroeconomics

Also required is a GPA of 2.0 or better for courses presented for the minor. The satisfactory/ unsatisfactory (s/u) option may be applied to Econ 51(1001) and 52(1002) only.

Graduate Studies

Two-Three B.S./M.A. Dual Degree Program in Economics

The 2+3 B.S./M.A. in Economics is designed to allow selected students – transfer and native – to complete the requirements for both degrees in five years of full-time study (where full time is defined as 15 credit hours each semester or 30 credit hours per calendar year). The accelerated nature of this program requires the student to take up to 12 hours of approved 300/400 level dual-listed courses in the senior year, which will also be applied towards the Master's degree requirements. The total number of credit hours required to complete the B.S. + M.A. dual program will equal 138 graded semester credit hours.

Admission Requirements: Students should apply to the Director of Graduate Studies for admission to the dual B.S./M.A. program the semester they will complete 60 graded undergraduate hours or as soon thereafter as possible. It is expected that this course work will include the general education requirements as well as college algebra or a higher-level mathematics course, introductory microeconomics and macroeconomics. A minimum G.P.A. of 3.0 is also required. Applicants must submit a nomination from a full time regular economics faculty member.

Provisional Status: Students who are accepted into the program will be admitted provisionally. During the third-year of full-time study (the first year of on-campus study for transfer students arriving with an associates degree from a 2-year college), the student will concentrate on course work required for the B.S. degree in economics. This will normally include completion of Economics 220(3200) 251(3001), 252(3002), 265(3100); at least 6 hours of economics electives; course work in mathematics; and electives in related areas. Provisional status will be lifted when 30 hours of approved semester credit hours are completed with a GPA of 3.0 or higher.

Dual Enrollment: During the fourth and fifth years of study, students will be allowed to dual enroll in both undergraduate and graduate courses with the consent of their advisor. To complete the remaining requirements for the B.S. degree, the student will normally enroll in: Economics 365(4100); three additional electives in economics of which two must be selected from Economics 350((4150), 352(4040), 353(4030), 366(4110), or 367(4130); up to three 400 level courses in economics; and additional hours of undergraduate course work to complete a total of 120 credit hours. (Not more than 45 hours of economics course work may be counted towards the major.) Of the hours taken at the 300/400 level in economics, up to 12 hours will be counted towards the 30-hour minimum (after all prerequisites have been met) required for the Masters degree. After the student has completed the first 120 hours required for the undergraduate degree, the final year of study will normally require completion of 18 hours of additional courses at the 300/400 level. These must include Economics 403(5140), 451(5001), 452(5002), and 465(5100). The Director of Graduate Studies must approve all courses for the dual degree.

Awarding of Degree: The BS/MA degrees will be awarded when all requirements for the MA degree have been completed. Students who officially withdraw from the "2 + 3" Dual Degree Program in Economics and who have successfully completed all of the requirements for the BS degree will be awarded the BS degree.

Master of Arts in Economics

The Department of Economics offers a Master of Arts in Economics with two options: general economics and business economics.

Admission Requirements

An undergraduate major in economics is not required for acceptance into the program. Application for admission may be submitted at any time, although class work formally begins in late August, mid-January, and mid-June. Candidates must meet the general admission requirements of the Graduate School, submit GRE scores (Advanced Economics optional), and submit two letters of recommendation from persons qualified to judge the candidate's potential for success in the program.

The admissions decision is based on the applicant's academic transcript, GRE scores, letters of recommendation, and a personal narrative on the application form.

Departmental Honors A student may earn departmental honors with a GPA of 3.75 in all required courses for the M.A. degree and the recommendation of the department.

Degree Requirements

Candidates for the M.A. in economics must complete a core curriculum that provides training in the fundamental areas of economic theory, quantitative methods, and communication skills. Students then select either the general economics or business economics option.

Required Core Courses

The following courses or their equivalents are required for both the general economics and business economics option. Students with previous education in economics or business may waive some of these courses.

Econ 350(4150), Mathematical Economics

BA 410(5001), Managerial Economic Analysis

BA 411(5002), Analysis of National Economic Environment

MS/IS 481(5300), Statistical Analysis for Management Decisions

Econ 403(5140), Seminar in Economic Research

Econ 451(5001), Microeconomic Analysis

Econ 452(5002), Macroeconomic Analysis

Econ 465(5100), Econometric Theory and Methods
General Economics

The general economics option is designed for students interested in a broad-based background in the traditional fields of economics. It is intended for those who wish to teach basic economics or pursue further graduate study in economics. A recommended study program is available for students who plan to pursue a Ph.D. at another university after completing the M.A. in economics at UM-St. Louis.

The general economics option requires 42 credit hours. Students with previous education in economics or business may waive up to 12 hours of the 42 hours required.

Regardless of the number of required courses waived, at least 30 hours of graduate work must be completed within a six-year period to earn the degree. A minimum of 21 hours must be completed while enrolled in the M.A. in economics program at UM-St. Louis.

Required Courses

Candidates must complete the required core courses.

Electives

Candidates must complete at least 18 hours of electives. A maximum of 6 hours of economics electives may be taken at the 300 level. With the approval of the graduate coordinator, students may take up to 9 hours of graduate courses outside the Department of Economics.

Business Economics

The business economics option prepares students for careers in business, government, and other organizations. This option combines the applied economic analysis and quantitative skills necessary for decision making in business and government with an appreciation for the function areas of these institutions.

The business economics option requires 60 credit hours. Students with previous education in economics or business may waive up to 24 hours of the 60 hours required. Regardless of the number of required courses waived, at least 36 hours of graduate work must be completed within a six-year period to earn the degree. A minimum of 24 hours must be completed while enrolled in the M.A. in economics program at UM-St. Louis. More than 50 percent of the credit hours completed in the business economics option must be taken in the Department of Economics.

Required Courses

In addition to the required core courses, students must complete the following courses:

- BA 412(5900), Public Policies Toward Business
- BA 440(5400) Financial Accounting: Theory and Practice
- BA 450(6500), Financial Management
- BA 460(5611), Organizational Behavior and Administrative Processes
- BA 470(5700), Contemporary Marketing Concepts
- MS/IS 480(6800), Management Information Systems
- Econ 366(4110), Applied Econometrics
- Econ 453(5020), Economics of Contracts and Organization
- Econ 467(5130), Business and Economic Forecasting

Electives

Candidates must complete at least 9 hours of electives in 400-level economics courses. With the approval of the

graduate coordinator, students may take additional graduate courses outside the Department of Economics.

Certificate in Forensic Economics

The Certificate in Forensic Economics is a program of study designed for individuals who wish to supplement previous graduate studies with training in the theory and application of forensic economics. The program is aimed at individuals who wish to prepare economic reports and offer expert economic testimony for selected areas of litigation. The entrance requirement is a master's degree in such areas as actuarial science, business administration, finance, economics, or public policy. An applicant must have had prior course work, or its equivalent, in: Intermediate Microeconomics, Intermediate Macroeconomics, and Statistics. Course work in labor economics and law and economics is recommended but not required. Individuals admitted to this certificate program will be nonmatriculating graduate students.

Requirements

The certificate requires a minimum of 18 hours of course work in forensic economics. Students must complete:

- Econ 440(5650): Law and Forensic Economics
- Econ 442(5660): Labor Economics for Forensic Economics
- Econ 444(5670): Assessment of Damages in Personal Injury and Wrongful Death
- Econ 446(5680): Statistical Research in Forensic Economic Analysis
- Econ 447(5690): Writing Reports and Papers on Forensic Economics
- Econ 449(5695): Internship in Forensic Economics

Graduate Certificate in Management Economics

A Graduate Certificate in Managerial Economics is a program of study designed for individuals who wish to supplement previous graduate studies with advanced training in economic analysis. The entrance requirement is a master's degree in such areas as business administration, finance, or public policy administration. Individuals admitted to this certificate program will be nonmatriculating graduate students.

Requirements

The certificate requires a minimum of 18 hours of course work in economics. Students must complete:

- 451(5001), Microeconomic Analysis
- 452(5002), Macroeconomic Analysis
- 465(5100), Econometric Theory and Methods

and two of the following:

- 366(4110), Applied Econometrics
- 453(5020), Economics of Contracts and Organization
- 467(5130), Business and Economic Forecasting

Career Outlook

Economics is a language that provides the individual with a concise and logical way to study a wide range of problems and issues. It provides the flexibility for adapting to our ever-changing society, and it is also useful in everyday life. Thus, the economics major is excellent preparation for launching many careers. Economics graduates with a B.A. or B.S. degree pursue careers in banking, industry, and government. They use their training in economics as a foundation for a variety of jobs in management, personnel, sales, and marketing. Others continue their study of economics in graduate schools, earning M.A. and Ph.D. degrees. An undergraduate major in economics also provides a strong background for work on an M.B.A. or law degree. Economics is also important for careers in politics, journalism, and public and private service in foreign countries. Career planning materials are available in the Economics Resource Center, 452 SSB. For additional information, call the Director of Graduate Studies at (314) 516-5560.

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:

40(1000), 51(1001), 52(1002), 110(2610), 205(2800), 207(2010), 210(3900), 216(3500), 217(3501), 219(3650), 220(3200), 230(3300), 238(3310), 251(3001), 252(3002), 260(3400), 262(2410), 265(3100), 266(3600), 270(3700), 272(3750), 302(3710), 304(4140), 306(3052), 350(4150), 352(4040), 353(4030), 355(3620), 360(4550), 365(4100), 366(4110), 367(4130), 372(4610), 380(3800), 390(4990), 395(4980). GEOGRAPHY: 101(1001), 102(1002), 295(3900), 390, 395

Economics

40(1000) Introduction to the American Economy (3) [V, SS]

Introduction to economic analysis and problems through an examination of the development and operations of the American economy; study of its evolution, institutions, and principal problems. Econ 40(1000) does not substitute for Econ 51(1001) or 52(1002). Students who have already completed Econ 51(1001) or 52(1002) may not take Econ 40(1000) for credit.

51(1001) Principles of Microeconomics (3) [V, SS]

Prerequisite: Mathematics 30(1030) or Mathematics 40. Introduction to the determinants of household demand, production and cost, and market prices. Applies the principles of individual decision-making behavior to understanding goods, services, and resource markets.

52(1002) Principles of Macroeconomics (3) [SS]

Prerequisite: Econ 51(1001). Introduction to the determination of levels of and changes in aggregate income, output, employment, and prices. Applies economic principles of choice to the formulation and achievement of public policies that affect national employment, income distribution, and economic growth.

110(2610) The Economics of Professional Sports (3) [V, SS]

Prerequisite: Econ 40(1000) or equivalent or consent of instructor. This course will survey the economic organization of professional sports team industries and the relationship of sports teams to their employees, fans, and governments. Economic issues relating to salaries and labor disputes, monopoly practices, cartels and pricing,

team location decisions, and public subsidies for professional sports teams will be analyzed.

205(2800) History of American Economic Development (3) [MI, SS]

Prerequisites: Econ 40(1000) or 51(1001) or consent of instructor. (Same as Hist 205(2800)). Uses economic concepts to explain historical developments in American economy, beginning with hunter-gatherers who crossed the Bering land bridge around 12,000 B.C. Main topics include Native American economies, European exploration and conquest, colonial economies, indentured servitude, American Revolution, U.S. Constitution, westward expansion, transportation, Industrial Revolution, state banking and free banking, slavery, Civil War, post-bellum agriculture, rise of big business and antitrust, banking panics, Federal Reserve Act, First and Second World Wars, New Deal, and growth of government in postwar economy.

207(2010) The Business Firm: History, Theory, and Policy (3) [V, SS]

Prerequisites: Economics 40 (1000) or 51(1001) or consent of instructor. This course presents a history of development of modern business firms and examines the evolution of the economic theory of the firm. Special attention paid to the role that firms play in fostering social and economic development. Objective of course is to provide students with deeper understanding of firms so that they can make better policy decisions as owners, managers, lawmakers, regulators, and voters.

210(3900) Selected Topics in Economics (3)

Prerequisites: Econ 51(1001) and 52(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.

216(3500) Public Finance: Expenditures (3)

Prerequisite: Econ 51(1001). Analysis of public goods and externalities, models of collective choice, elements of benefit-cost analysis, the theory of bureaucracy, governments as agents in markets.

217 (3501) Political Finance: Revenues (3)

Prerequisite: Econ 51(1001). Analysis of the economic role of governments, subsidies and taxes in the federal system, criteria for tax evaluation, the nature of tax legislation, private decision making under differing tax institutions, and government borrowing.

219(3650) Law and Economics (3)

Prerequisite: Econ 51(1001). Analysis of the economic role of property rights and contracts in the private for-profit and not-for-profit sectors of the economy. Considers economic incentives to form organizations as one alternative and to form contracts as another. Considers the economic efficiency of the common law and judicial systems in use in the United States.

220(3200) Money, Banking, and Monetary Theory (3)

Prerequisites: Econ 51(1001) and 52(1002). Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory; integration of monetary phenomena with national income theory. Analysis of current policy issues.

230(3300) International Economic Analysis (3)

Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Introduction to the theories of international trade and factor movements including determinants of trade, the effects of trade on sectors and on overall economic performance, trade restrictions, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

231(3301) International Finance (3)

Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Introduction to international monetary systems; foreign exchange markets; financing of international transactions; the international position of the dollar.

238(3310) Comparative Economic Systems (3)

Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Introduction to the comparative study of economic organization, growth, and welfare in different types of national economies such as the United States, the United Kingdom, France, Germany, Sweden, Japan, the republics of the former Soviet bloc, and China.

240(3320) Economic Development (3)

Prerequisites: Econ 51(1001) and 52(1002). Survey of economic growth as applied to developed and underdeveloped countries. Analysis of development policies with emphasis on case studies. Case studies may include the United States, Western Europe, or Latin America.

251(3001) Intermediate Economic Theory:

Microeconomics (3)

Prerequisites: Econ 51(1001) and 52(1002). Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

252(3002) Intermediate Economic Theory:

Macroeconomics (3)

Prerequisites: Econ 51(1001), 52(1002); Econ 220(3200) is recommended. Study of national income, expenditure,

and the forces determining the level of economic activity. Special emphasis on the theory of income determination and its application to public policy.

260(3400) Labor Economics (3)

Prerequisite: Econ 40(1000), or 51(1001), or 52(1002). Examines the labor market in the economy. Considers the theories of labor supply, labor demand, and market determination of wages. Other topics include noncompetitive markets, internal labor markets, the theory of human capital, compensating wage differentials, labor market discrimination, unions and collective bargaining, unemployment, and poverty and the distribution of income.

262(2410) Work, Families, and Public Policy (3)

Prerequisite: Econ 40(1000) or 51(10001). 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.

265(3100) Economic Statistics (3)

Prerequisites: Math 30(1030), Econ 51(1001), and Econ 52(1002). Introduction to economic data sources, data interpretation and statistical inference as used in economic analysis. Emphasizes the testing of economic hypotheses and the development and estimation of economic models. Introduces the use of statistical software used in economics.

266(3600) Industrial Organization (3)

Prerequisite: Econ 51(1001). A theoretical and empirical analysis of the actions of firms under alternative forms of market organization. The role of economics of scale, product differentiation, mergers, and advertising in affecting industry structure, and the impact of the resulting industry structure on pricing, output, promotion, and technology decisions of firms.

270(3700) Urban and Regional Economics (3)

Prerequisites: Econ 51(1001) and 52(1002). A survey of factors affecting the location of economic activity, industrial diversity, determinants of urban growth, the role of urban public economy, and the management of the urban environment.

272(3750) The Political Economy of Health Care (3)

Prerequisite: Econ 40(1000) or Econ 51(1001). The course provides an economic perspective on the working of the health care market, focusing on the effects of government regulation, tax policy, and entitlement programs. There will be a detailed review of existing U.S. health care financing programs (e.g., Medicare, Medicaid), as well as financing systems of other developed countries. Health care policy will be evaluated according to its impact on quality, cost, and access to medical care and, ultimately, the overall health status of our population.

301(3150) Quantitative Methods and Modeling in Economics, Business and the Social Sciences (3)

Prerequisites: Math 30(1030); Econ 51 (1001) or junior standing. This course focuses on the application of mathematical techniques to model building. The course reviews various mathematical techniques and shows students how they can be used for describing various social and business phenomena. Specific examples from the business, economics, criminology and other social sciences will be employed to reinforce the mathematical tools and concepts discussed. Students who have previously completed Econ 350(4150) or Math 80(1800) or Math 100(1100) may not take this course for credit.

302(3710) Planning Processes in the Urban Economy (3)

Prerequisites: Econ 51(1001) and junior standing. Economic techniques and criteria used in planning and evaluating programs and projects for the urban economy.

305(5051) Macroeconomics for the School Curriculum (1-3)

Prerequisite: Junior standing. Analysis of forces affecting the national economy, with emphasis on income determination, employment, money and banking, and international trade and finance. Special reference to topics included in elementary and secondary school social science curricula. Econ 305 may not be used by economics majors to meet degree requirements.

306(3052) Microeconomics for the School Curriculum (1-3)

Prerequisite: Junior standing. Analysis of market forces, with emphasis on business firms, households, and productive-factor markets, price determination, and resource allocation. Special reference to topics included in elementary and secondary school social science curricula. Econ 306 may not be used by economics majors to meet degree requirements.

310(5055) Economic Issues for the School Curriculum (1-3)

Prerequisites: Junior standing and consent of instructor. An analysis of selected economic issues appropriate to instruction in secondary and elementary schools. May be taken more than once for credit, provided the topic of the

course is different each time. May not normally be used by economics majors to meet degree requirements.

317(3510) Public Finance: State and Local (3)

Prerequisites: Econ 51(1001) and 52(1002) and junior standing. A study of expenditure, taxation, and financial administration of state and local governments, with emphasis on problems of current interest. Special attention given to research methods, as well as financial relations between various levels of government.

320(4210) Financial Markets and Institutions (3)

Prerequisite: Economics 220(3200). Demand, supply, and flow of funds in the macrofinancial system, including money, capital, futures, and foreign exchange markets. Examines types and historical development of domestic and international financial intermediaries operating within these markets, decision-making within individual intermediaries, their regulatory environment, and how their portfolio decisions affect flows in the financial system.

350(4150) Mathematical Economics (3)

Prerequisites: Math 80(1800) or 100(1100), Econ 251(3001), or Business 408(5000) or 410(5001). This course uses calculus and other mathematical tools to analyze economic phenomena. In addition to exploring techniques used to solve unconstrained and constrained optimization problems, the course also examines how matrix algebra is used in economic modeling. This course allows students to mathematically analyze economic models which receive graphical treatment in lower level courses.

352(4040) Analysis of Business Cycles (3)

Prerequisites: Econ 220(3200); 252(3002); 265(3100). This course focuses on the empirical regularities in macroeconomics commonly referred to as the business cycle. It examines the variability and co-movements of aggregate economic variables and explores alternative theoretical explanations of these phenomena.

353(4030) Managerial Economics (3)

Prerequisite: Econ 251(3001) or equivalent; Math 80(1800) or 100 (1100) recommended. Application of microeconomic theory to decision-making process in the business firm. Topics include pricing and profit strategy, cost analysis, decision making under uncertainty, technology, innovation, and productivity growth, and the structure and organization of firms. Problem-solving and case-study approach used.

355(3620) Business and Government (3)

Prerequisite: Econ 51(1001). Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered.

357(3630) Government Regulation and Antitrust Policy (3)

Prerequisite: Econ 51(1001). Evaluation of the use of antitrust policy and government regulatory agencies to improve the performance of industrial markets. Course will include discussion of antitrust cases and analysis of the economic impact of deregulatory initiatives in the airline, trucking, railroad, and telecommunications industries.

360(4550) Natural Resource Economics (3)

Prerequisite: Econ 51(1001), or consent of instructor. The relationship between human activity and the world's natural resources requires choices. This course uses an economics perspective to study these choices. This perspective uses the view of the environment as an asset for its starting point. Issues concerning the optimal and sustainable use of natural resources are examined in this context. Special emphasis is given to potential policy responses to environmental problems.

365(4100) Introduction to Econometrics (3)

(Same as Public Policy Administration 365.) Prerequisites: Econ 51(1001) and 52(1002); Econ 265(3100) Math 80(1800) or Math 100(1100); or consent of instructor. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

366(4110) Applied Econometrics (3)

Prerequisite: Econ 365(4100) or equivalent. Concepts, techniques, and advanced applications of econometrics. Emphasis on developing a critical understanding of the appropriateness and limitations of a variety of state-of-the-art techniques used to model economic or political processes. Topics will include joint tests of hypotheses, estimation of lagged effects, models of qualitative choice, simultaneous systems, and outlier diagnostics.

367(4130) Econometric and Time Series Forecasting (3)

Prerequisite: Econ 365(4100) or equivalent. Alternative forecasting methodologies for economic time series will be analyzed and discussed. The focus of the course will be: (1) the development of time-series (ARIMA) models and their application to forecasting; (2) the use of standard econometric models for forecasting; and (3) evaluation and comparison of these methods and the conditions under which each is the appropriate methodology.

372(4610) Economics of Nonmarket Decision Making (3)

Prerequisites: Economics 51(1001) or consent of instructor. Application of economic theory and methodology to study of nonmarket decision making. Introduction to economic models of the judiciary,

bureaucracies, interest groups, regulatory agencies, legislative and executive branches of government, and private nonprofit charitable organizations. Impact of voting rules and agenda manipulation on collective outcomes will be explored.

380(3800) History of Economic Thought (3)

Prerequisites: Econ 51(1001) and 52(1002). The evolution of economic thought from the ancients through post-Keynesian theory.

390(4990) Internship in Applied Economics (2-6)

Prerequisites: Junior standing, Econ 251(3001), and consent of instructor. Independent study involving work with appropriate private firm or public agency. Maximum of 6 hours may be earned, only 3 of which may be applied to economics major.

395(4980) Special Readings (1-6)

Prerequisites: Consent of instructor; grade point of 3.0 or higher in economics. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor. Maximum credit limited to six hours.

403(5140) Seminar in Economic Research (3)

Prerequisites: Econ 220(3200); Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002). Research methods applied to economics. Develops efficiency and skill in conducting research and communicating the results with written reports and oral presentations. This course must be taken within the first year of study after completion of the prerequisites.

408(5010) Microeconomics for Policy Analysis (3)

Prerequisites: Graduate Student Standing. (Same as PPA 408(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.

420(4200) Monetary Theory and Policy (3)

Prerequisites: Econ 220(3200); Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(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

421(6500) Public Sector Microeconomics (3)

Prerequisite: Econ 25(3001)1 or BA 410(5001), or PPA 408(6080). (Same as PPA 421(6210).) Application of tools of intermediate microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g., externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

422(6210) Financial Markets (3)

Prerequisites: Econ 220(3200); Econ 251(3001) or BA 410(5001); Econ 252(3002). Demand, supply, and flow of funds in allocating credit and distributing risk in the macrofinancial system. The saving investment process, the rationale for financial markets, and the role of financial intermediaries are studied within the framework of the flow of funds accounts. Special attention is given to the operation of money, capital, futures, and foreign financial markets and the impact of public policy on the structure and performance of financial markets.

430(6300) International Trade (3)

Prerequisite: Econ 251(3001) or BA 410(5001). Survey of the modern theories of international trade and their applications including factor endowments and other determinants of trade, trade restrictions, foreign investment, trade and economic development, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

431(6301) International Monetary Analysis (3)

Prerequisite: Econ 220(3200); Econ 252(3002) or BA 411(5002). Application of macroeconomic theory to the international monetary system. Topics include the balance of payments, exchange rates, international linkages, world inflation, capital flows, and the gold standard.

440(5650) Law and Forensic Economics (3)

Prerequisites: Econ 251(3001), 252(3002), 265(3100), or equivalent, or consent of instructor. Reviews issues of law that dictate conditions under which forensic economic analysis is admissible. Topics include introduction to common law, federal and state court systems, statutory basis for wrongful death damages, "make whole" principle, efficient deterrence and efficient compensation, differences by class of litigation, determination of relevant law, legal implications of "preferred jury instructions," standards for admissibility of economic expertise.

442(5660) Labor Economics for Forensic Economists (3)

Prerequisites: Econ 251(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Focuses on areas of labor economics of special importance in forensic economic analysis. Topics include human capital as a

recoverable asset, age-earnings cycles, variations in age-earnings cycles, earning capacity versus expected earnings, theories of family and family bargaining, theory of discrimination and tests for presence of discrimination.

444(5670) Assessment of Damages in Personal Injury and Wrongful Death (3)

Prerequisites: Econ 251(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Reviews methodologies for standard damage categories in forensic economic analysis. Topics include methods for establishing base earnings, use of age-earnings profile data, discount rates, net discount rates and stability of relationship between wage growth and discount rates, analysis of fringe benefit packages, concepts and measurement of nonmarket family services, hedonic damage controversy, analysis of personal consumption/personal maintenance for wrongful death cases.

446(5680) Statistical Research in Forensic Economic Analysis (3)

Prerequisites: Econ 251(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. Review of relevant statistical techniques, data sources, and reliability factors. Since factual information about individual tort victims is often limited in forensic economic assessment, this course deals extensively with issues of inference that must be made with little data. Also addresses issues of scientific admissibility and Internet as a potential source of relevant data.

447(5690) Writing Reports and Papers in Forensic Economics (3)

Prerequisites: Econ 251(3001), 252(3002), 265(3100), or equivalent; or consent of instructor. A professional writing course in which students are expected to prepare both a report suitable for litigation and a paper written in publication format for a professional journal or law review. Some student papers will be publishable in specialized journals, legal publications, and law reviews.

449(5695) Internship in Forensic Economics (3)

Prerequisites: Econ 251(3001), 252(3002), 265(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.

451(5001) Microeconomic Analysis (3)

Prerequisites: Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150). Survey of microeconomic comparative statistics. Detailed examination of demand and supply, product, and factor markets. Partial equilibrium in competitive, imperfectly competitive, and monopolistic markets.

452(5002) Macroeconomic Analysis (3)

Prerequisites: Econ 220(3200); Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150). Aggregate economic theory, including analysis of the determinants of income, output, employment, and prices. Employment and price-level effects of consumer and investment demand, the money supply and interest rates, and government policies.

453(5020) Economics of Contracts and Organization (3)

Prerequisites: Econ 251(3001) or BA 410(5001) (or 408(5000)). Considers issues in the coordination of human resources in the production of goods and services, either through individual contracting or through various forms of organizations. Organization is explained as a nexus of contractual relationships within a cooperative production unit, whether that unit is governmental, in private commerce, or has a nonprofit orientation-or some mix of the three basic modes. Emphasizes the roles of transactions costs, bounded rationality, monitoring individual performance in team production, opportunism, basic principles of insurance, and other incentive compatibility issues.

460(6600) Structure and Performance of United States Industry (3)

Prerequisites: Econ 251(3001) or BA 410(5001); Econ 350(4150). An analysis of the functioning of business firms under alternative market arrangements. Topics include: the theory and measurement of monopoly power and the role of economies of scale, product differentiation, and entry conditions in affecting this power; the impact of market power on the price-setting behavior, advertising and promotional strategies, and technological innovation of firms; the role of government policy in promoting or preventing competition among firms.

463(6630) Economics of Telecommunications (3)

Prerequisites: Econ 25(3001), BA 408(5000) or BA410(5001) and Econ 350(4150). Application of economic theory and techniques to the telecommunications industry. Topics include demand theory for telephone access and use, consumer surplus models for subscription choice, nonlinear pricing strategies including pure and mixed bundling and multi-part tariffs, the incentives of the firm under various regulatory regimes, a comparison of rate-of-return regulation and incentive (price cap) regulation, and the impact of carrier-of-last-resort responsibilities.

465(5100) Econometric Theory and Methods (3)

Prerequisites: Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150); Econ 365(4100) or MS/IS 481(5300); Math 245(2450) or equivalent. A rigorous review of statistical models and methods relevant to the estimation and testing of economic relationships. Emphasis on the theoretical underpinnings of techniques commonly used for single and multiple

equation estimation and hypothesis testing. Topics include ordinary and generalized least squares, robust regression, and simultaneous equations estimation.

467(5130) Business and Economic Forecasting (3)

Prerequisites: Econ 251(3001) or BA 410(5001); Econ 252(3002) or BA 411(5002); Econ 350(4150); Econ 365(4100) or MS/IS 481(5300). This course develops the alternative techniques which are used to forecast economic time series. Each forecasting technique will be evaluated in terms of its theoretical soundness and predictive track record. Students will also learn to use these techniques to differentiate among competing economic models.

470(6700) The Political Economy of Metropolitan Areas (3)

Prerequisites: Regular graduate student status and consent of graduate student coordinator. This course deals with both the public and private sector issues that affect our nation's metropolitan areas. It focuses on policy implications for economic development, government finance (especially at the state and local level) and intergovernmental relations. It also covers the economics of specific topical areas such as local education, transportation, financing adequate urban services, governmental structure and financial organization, infrastructure needs.

471(6750) The Political Economy of Health Care (3)

Prerequisite: Econ 251(3001) or BA 408(5000) or consent of instructor. This course investigates the impact of government policy on health care provision and financing, focusing on the effect of entitlement programs, tax policy, and government regulation. Applying standard economics techniques, students will analyze incentives facing the decision makers in the health care system and ways in which they are altered by government policy. Attention will also be given to rationales for government intervention and roles of interest groups in the formulation of U.S. health care policy. The course will provide a detailed review of specific federal and state government financing programs, primarily focusing on Medicare and Medicaid, and will include discussion of the economic aspects of current health finance reform proposals.

472(6760) Health Economics (3)

Prerequisites: Econ 251(3001) or BA 410(5001). This course applies microeconomic theory and statistical techniques to understand decision making in health care markets. The effects of government policies on the health care choices of consumers and providers are identified and quantified; attention is given to federal and state entitlement programs, regulations, tax policies and antitrust enforcement. The role of insurance as a risk-sharing device is explored, along with its implications for pricing and health care utilization.

480(6400) Labor Economics: Theory and Public Policy (3)

Prerequisite: Econ 251(3001) or BA 410(5001). This course examines labor supply, labor demand, and market determination of wages. Topics covered include the effect of technological change on employment, trends in labor force participation, the impact of government taxes and transfers on labor supply, poverty, and its economic consequences, the human capital model and its implications for investment in education and on-the-job training, and theories of economic discrimination and empirical measurement issues. Throughout the course, current public policy debates are examined using the theoretical models developed.

490(6900) Advanced Topics in Economic Analysis (3)

Prerequisite: Consent of the instructor. Study of a specific economics topic, which may vary from semester to semester. May be taken more than once if the topic is different.

495(6980) Directed Readings (1-6)

Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences.

Geography

101(1001) Introduction to Geography (3) [MI, SS]

Prerequisite: Math 02 or equivalent. An introduction to geography as a social science. The identification and explanation of order in the human landscape. A survey of the social, political, economic, and psychological factors which influence geographic patterns.

102(1002) World Regions (3)

Prerequisite: Geography 101(1001) recommended. Survey of the major regions of the world. Designed to give the student an awareness of the character of each of these major regions through the interrelationships of the various attributes of place.

.295(3900) Special Readings in Geography (3)

Prerequisite: Consent of instructor. This course will provide a more in-depth analysis of the various factors which influence geographic patterns. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

395 Advanced Topics in Geography (3)

Prerequisites: Junior standing or consent of instructor. Analysis of selected geography topics. The topics selected will vary from semester to semester. This course may be taken for credit more than once as long as the topics discussed in each semester are different.

Home Economics

130(1110) Nutrition in Health (3)

A study of dietary nutrients essential for health, proper selection of foods to provide them, and current issues affecting them.

Department of English

Faculty

Barbara A. Kachur, Associate Professor*
Ph.D., The Ohio State University
Chairperson

David Carkeet, Professor*
Ph.D., Indiana University

Joseph Carroll, Professor*
Ph.D., University of California-Berkeley

Sylvia J. Cook, Professor*
Ph.D., University of Michigan

Charles Dougherty, Professor Emeritus
Ph.D., University of Toronto

William C. Hamlin, Professor Emeritus
Ph.D., University of Missouri-Columbia

Howard Schwartz, Professor*
M.A., Washington University

James E. Tierney, Professor Emeritus
Ph.D., New York University

Peter Wolfe, Professor, Curators' Professor*
Ph.D., University of Wisconsin

Jane Zeni, Professor*
Ed.D., University of Missouri-St. Louis

Deborah Aldrich-Watson, Associate Professor*, Ph.D.,
Columbia University

Richard M. Cook, Associate Professor*
Ph.D., University of Michigan

Sally Barr Ebest, Associate Professor*
Ph.D., Indiana University

Kathy Gentile, Associate Professor*
Ph.D., University of Oregon

Francis Grady, Associate Professor*
Ph.D., University of California-Berkeley

Bruce L. Liles, Associate Professor Emeritus
Ph.D., Stanford University

John T. Onuska, Jr., Associate Professor Emeritus
Ph.D., Harvard University

Steven Schreiner, Associate Professor*
Ph.D., Wayne State University

Eamonn Wall, Jefferson Smurfit Professor of Irish
Studies and Associate Professor
Ph.D., City University of New York

Jane Williamson, Associate Professor Emerita
Ph.D., Bryn Mawr College

Ruth Ellen Kocher, Assistant Professor
Ph.D., Arizona State University

Tivoli Majors, Assistant Professor*
Ph.D., University of Texas at Austin

Nanora Sweet, Assistant Professor*
Ph.D., University of Michigan

Mary Troy, Assistant Professor*
M.F.A., University of Arkansas

Dennis Bohnenkamp, Senior Lecturer
M.A., University of Missouri-Columbia

Ellie Chapman, Senior Lecturer Emerita
M.A., Murray State University

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
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

Roxanne Y. Schwab, Senior Lecturer
M.A., Saint Louis University

Barbara Van Voorden, Senior Lecturer
M.A., Washington University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The English department offers or participates in offering the B.A. in English, the B.A. in English with certification for secondary teaching, and the B.S. in secondary education with an emphasis area in English. The department also offers a minor in English. Additionally, students with any major in the university may earn a Certificate in Writing so that they may demonstrate evidence of training in creative, journalistic, or technical writing.

The department has a graduate program leading to the master of arts degree. Students may pursue a literature track where they acquire a broad coverage in British and American writers or a writing track where half of the course work deals with composition and writing theory. The department also offers the master of fine arts in creative writing, in which half of the courses are writing workshops and independent writing projects.

Departmental Honors Candidates for departmental honors in English must achieve a 3.2 average in English at graduation and complete an undergraduate or graduate seminar in English, the final paper for which must be acceptable to the instructor as an honors thesis.

Undergraduate Studies

General Education Requirements

English courses may be used to meet the university's humanities requirement, **except** the following:

- 10(1100), Freshman Composition
- 11(1110), Freshman Composition for International Students
- 112(2120), Topics in Writing
- 122(2810), Traditional Grammar
- 209(3090), Practical Criticism: Writing About Literature
- 210(3100), Advanced Expository Writing
- 211(3110), Advanced Expository Writing for International Students
- 212(3120), Business Writing
- 213(3130), Technical Writing
- 214(3140), News Writing
- 215(3150), Feature Writing
- 216(3180), Writing in the Sciences
- 218(3180), Reporting
- 262(3600), The Curriculum and Methods of Teaching English
- 300(4000), Writing in the Professions
- 305(4880), Writing for Teachers
- 313(4870), Advanced Business and Technical Writing
- 319(4860), Editing
- 320(4890), Independent Writing Project

The college's foreign language requirement may be met in any language.

Satisfactory/Unsatisfactory Option

English majors may take any English course on a satisfactory/unsatisfactory basis **except** the following:

- 10(1100), Freshman Composition
- 11(1110), Freshman Composition for International Students
- 209(3090), Practical Criticism: Writing About Literature
- 210(3100), Advanced Expository Writing
- 211(3110), Advanced Expository Writing for International Students
- 212(3120), Business Writing
- 213(3130), Technical Writing
- 214(3140), News Writing
- 215(3150), Feature Writing
- 216(3160), Writing in the Sciences
- 218(3180), Reporting
- 262(3600), The Curriculum and Methods of Teaching English
- 300(4000), Writing in the Professions
- 305(4880), Writing for Teachers
- 313(4870), Advanced Business Writing
- 319(4860), Editing
- 320(4890), Independent Writing Project

Degree Requirements

Bachelor of Arts in English

English majors must complete at least 36, but no more than 45, hours in English exclusive of English 10(1100), Freshman Composition; English 11(1110), Freshman Composition for International Students; and English 209(3090), Practical Criticism: Writing About Literature.

1) Students majoring in English must take:

- 122(2810), Traditional Grammar--or test out
- 131(2310), English Literature I
- 132(2320), English Literature II
- 171(2710), American Literature I
- 172(2720), American Literature II

2) English 209(3090), Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 300(4000)-level courses in English.)

3) Students must also complete one course from five of the following 10 areas:

Area 1 Medieval English

- 322(4250), Old English Literature
- 324(4260), Chaucer
- 325(4270), Medieval English Literature

Area 2 Shakespeare

- 337(4370), Shakespeare: Tragedies and Romances
- 338(4380), Shakespeare: Comedies and Histories

Area 3 The Renaissance

- 332(4320), Elizabethan Poetry and Prose
- 339(4360), Tudor and Stuart Drama
- 342(4340), Early Seventeenth-Century Poetry and Prose
- 345(4350), Milton

Area 4 Restoration and Eighteenth-Century English

- 346(4410), Restoration and Eighteenth-Century Drama
- 352(4420), Age of Dryden and Pope
- 353(4440), Age of Johnson
- 364(4450), The Eighteenth-Century English Novel

Area 5 Nineteenth-Century English

- 365(4540), The Nineteenth-Century English Novel
- 368(4510), Early Romantic Poetry and Prose
- 369(4520), Later Romantic Poetry and Prose
- 371(4560), Prose and Poetry of the Victorian Period
- 372(4580), Literature of the Late Nineteenth and Early Twentieth Centuries

Area 6 Nineteenth-Century American

- 373(4610), Selected Major American Writers I
- 374(4620), Selected Major American Writers II
- 375(4640), American Fiction to World War I

Area 7 Twentieth-Century English/American

376(4650), Modern American Fiction
383(4750), Modern British Fiction
384(4770), Modern Poetry
385(4760), Modern Drama
386(4740), Poetry Since World War II

Area 8 Literary Criticism

321(4000), History of Literary Criticism
327(4030), Contemporary Critical Theory
329(4050), Forms and Modes of Poetry
387(4070), The Two Cultures: Literature and Sciences
388(4080), Narrative, Cognition, and Emotion

Area 9 Special Topics

306(4060), Adolescent Literature
323(4920), Continental Fiction
380(4930), Studies in Women and Literature
390(4900), Seminar
391(4940), Special Topics in Jewish Literature
395(4950), Special Topics in Literature

Area 10 Linguistics

307(4800), Linguistics
308(4810), English Grammar
309(4820), History of the English Language

Work in 100(2000)-level courses provides background in literary history and forms, as well as the means for discussing literary issues, on paper and orally. Thus, the department requires English 131(2310) or consent of the instructor as a prerequisite for all courses in Areas 1-4 and English 132(2320) or consent of the instructor as a prerequisite for all courses in Areas 5 and 7, except American literature courses. English 171(2710) or consent of the instructor is a prerequisite for all courses in Area 6, and both English 171(2710) and English 172(2720) or consent of the instructor are prerequisites for English 376(4650). All survey courses (English 131(2310), 132(2320), 171(2710), and 172(2720) must be taken before the major has completed 90 hours toward a degree.

A maximum of 6 satisfactory/unsatisfactory hours may be taken in the department. Majors must complete at least 18 graded (i.e., not satisfactory/unsatisfactory) hours in English courses at the 200(3000) level or above with a grade point of 2.0 or better in these courses.

Students majoring in English must complete a minimum of 12 graded hours in English courses at the 300(4000) level or above in residence with a grade point average of 2.0 or better in these courses or students must receive special consent of the department.

Students should consult with faculty advisers to determine which upper-level courses best satisfy their major needs and interests.

Bachelor of Arts in English with Certification for Secondary Education

All candidates for certification to teach English must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this *Bulletin* for information.

In addition to the requirements for the B.A. in English, students must meet the following requirements for secondary certification:

1) Two courses in American literature. This requirement may be met by courses counted for the major.

a American literature must include a unit or course in the literature of ethnic groups.

b American literature must include a unit or course in literature for adolescents.

2) Twelve hours in composition and rhetoric:

Eng 10(1100), Freshman Composition, may be counted.

Eng 209(3090), Practical Criticism: Writing About Literature, is required.

Eng 305(4880)/Sec Ed 305(4880), Writing For Teachers, is required.

Recommended courses include creative writing, journalism, and business writing.

3) English language requirements

a. Eng 122(2810), Traditional Grammar

Students with sufficient background may gain exemption from the English 122(2810) requirement by passing the English-Education Test of Basic Grammar. This test may be taken only twice. Certification candidates must pass English 122(2810) or the Test of Basic Grammar before applying for student teaching.

b. Eng 308(4810), English Grammar

c. Eng 307(4800), Linguistics, or Eng 309(4820), History of the English Language

4) Eng 262(3600), The Curriculum and Methods of Teaching English. Prerequisite: Completion of Level II courses and a near major in English. Must be taken concurrently with professional internship, and before student teaching.

5) Eng 270(3700), English Student Teaching Seminar, must be taken concurrently with Sec. Ed. 290(3290), Secondary School Student Teaching.

6) Candidates for certification in Missouri must have a 2.5 cumulative GPA, computed from the beginning of freshman year and including all colleges attended. They also need a minimum GPA of 2.5 in their English courses. All grades in professional education and in required English courses must be C- or better.

**Bachelor of Science in Secondary Education with an
Emphasis Area in English**

All candidates for certification to teach English must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this *Bulletin* for information.

The required courses in English and professional education are the same as those for the B.A. with certification for secondary education. However, students fulfill the general education requirements of the College of Education rather than those of the College of Arts and Sciences. For example, students seeking the B.S. in Education are not required to study a foreign language.

Certification to Teach Secondary Speech and Drama

All candidates for certification to teach Speech and Drama must enroll in a program in the College of Education involving Level I, level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this Bulletin for information.

In addition, undergraduates who wish to be certified to teach Speech and Drama must meet the requirements for a major in Communication as well as requirements set by the Theatre faculty.

Minor in English

A student may minor in English by taking at least 18 hours of English courses exclusive of Basic Writing, English 10(1100), Freshman Composition, and English 11(1110), Freshman Composition for International Students. English 209(3090) is required, and 12 of the 18 hours must be in literature courses, 9 of which must be in courses at the 200 or 300 level. Every student taking a minor in English must consult with an adviser in the English department to ensure a coherent program of studies. The GPA in courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis. No more than 3 hours taken on a satisfactory/unsatisfactory basis may be counted toward the 18-hour minimum.

Certificate Program in Writing A student may receive the Certificate in Writing by completing a total of 18 hours in writing courses chosen from the following:

Comm 212(2212), Broadcast Writing and Reporting
Comm 217(2217), Script Writing for Business and Industry

English 103(2030), Poetry Writing

English 104(2040), Short Story Writing

English 105(2050), Play Writing

English 106(2060), Introduction to the Writing of Poetry and Fiction

English 108(2080), or **Comm 108(1108)** Advertising Copywriting

English 112(2120), Topics in Writing

English 203, Intermediate Poetry Writing

English 204, Intermediate Fiction Writing

English 209(3090), Practical Criticism: Writing About Literature

English 210(3100), Advanced Expository Writing

English 211(3110), Advanced Expository Writing for International Students

English 212(3120), Business Writing

English 213(3130), Technical Writing

English 214(3140) or **Comm 214(3214)**, News Writing

English 215(3150), Feature Writing

English 216(3160), Writing in the Sciences

English 218(3180), Reporting

English 228(3280) or **Comm 228(2228)**, Writing for Public Relations

English 303(4130), Advanced Poetry Writing

English 304(4140), Advanced Fiction Writing

English 305(4880), Writing for Teachers

English 313(4870), Advanced Business and Technical Writing

English 317(4850), Topics in Teaching Writing

English 319(4860), Editing

English 320(4890), Independent Writing Project (This course is required. It is to be taken as the last course a student will take in the program, and it is to be used to generate an extensive final project or internship.)

English 396(4160), Special Topics in Writing

Honors 210(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:

213(3130), Technical Writing

319(4860), Editing

313(4870), Advanced Business and Technical Writing or **320(4890)**, Independent Writing Project

In addition, students take three electives for a total of 18 hours chosen from the following:

Business Administration

103(1800), Computers and Computer Information

205(3100), Contemporary Business Communication Communication

65(1065), Introduction to Information Technology

Computer Science

125(1250), Introduction to Computer Science

(Prerequisite: Math 30(1030), College Algebra)

English

212(3120), Business Writing

214(3140), News Writing

215(3150), Feature Writing

216(3160), Writing in the Sciences

228(3280), Public Relations Writing

313(4870), Advanced Business and Technical Writing (if **320(4890)** is taken as requirement)

320(4890), Independent Writing Project (if **313(4870)** is taken as requirement)

Courses taken to fulfill requirements for the Writing Certificate may not be taken on satisfactory/unsatisfactory basis.

Graduate Studies

Admission Requirements

A candidate should have a bachelor's degree, with at least 18 hours in English courses. Normally only students with a grade point average of at least 3.0 in undergraduate English courses and with an overall undergraduate average of 2.75 will be considered.

The graduate coordinator of the English Department with the advice of the graduate committee will use the undergraduate record and the scores of the GRE general test as the basis for a decision. We welcome letters of recommendation from the applicant's former English instructors, but they are not required. Applications to the MA in English are considered at all times. However, because spaces in graduate courses are limited, it is strongly advised that prospective students submit their applications well before the semester begins in order to gain admission into their appropriate classes.

Teaching Assistantships

A number of teaching assistantships are available for qualified applicants. In addition to the undergraduate record and the scores on the GRE general test, applications should include two letters of recommendation from former English instructors. Applications should be submitted to the graduate coordinator of the English department no later than March 15 preceding the academic year for which the appointment is desired.

Degree Requirements

Master of Arts in English

In addition to the Graduate School requirements, students must complete at least 36 hours, 27 hours of which must be in 400(5000)-level courses. Nine hours may be taken in 300(4000)-level courses approved by the department and Graduate School.

At the outset of the program, students in both the literature and writing theory tracks must take English 400(5000), Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 400(5000).

Students who choose a literature track must also take at least one course in each of the following six areas:

- Area 1, British literature before 1660
- Area 2, British literature between 1660 and 1900
- Area 3, Twentieth-century literature (British, American, post-colonial, or in translation)
- Area 4, American literature

Area 5, Theories of writing, criticism, language, and/or culture

Area 6, Literature in translation, study of a particular literary genre, or a course in another relevant discipline. Students who choose the composition track must take 18 hours in literature courses (including Eng 400(5000) and 18 hours in composition courses (including Eng 485(5840)). The literature courses should provide broad coverage, rather than a narrow focus on a particular genre or historical period. If students choose the thesis option (6 hours) they will take 15 hours in literature and 15 hours in composition.

Thesis Option Students in literature or writing theory may elect the thesis option, which requires a total of 6 hours of thesis credit. The thesis should demonstrate original thought and substantial research and may be a critical study of literary works, a theoretical exploration of issues related to literature or writing, or a descriptive assessment of fieldwork related to writing and pedagogy. The thesis must be approved and assigned a grade by a thesis committee. The student will select a major professor who, after consulting with the chair and the graduate coordinator, will select two other members of the committee.

Further information may be found in *The Master of Arts in English*, available from the English department.

Master of Fine Arts in Creative Writing

The application process is identical to that for the master of arts degree, with these exceptions: there is one annual deadline for all applications, Feb. 15; a writing sample is required (15-20 poems or 20-40 pages of fiction); the GRE test is required only if the applicant seeks financial aid or a teaching assistantship.

In addition to the Graduate School requirements, students must complete at least 39 hours, 30 of which must be in 400(5000)-level courses. Nine hours may be taken in 300(4000)-level courses approved by the department and Graduate School. Students will specialize in one genre, poetry or fiction. They must complete the following 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 494(6010); (b) 15 hours of courses in literature, language, writing theory or literary journal editing offered by the department; (c) 3-6 hours of electives: another workshop or literature/language/writing theory/literary journal editing course or a relevant offering in another discipline. Students may not take a 300(4000)-level writing course in their genre for graduate credit. At least two of the writing workshops and English 494(6010) must be taken at UM-St. Louis. Complete information may be found in *The Master of Fine Arts in Creative Writing*, available from the English department.

Graduate Certificate in the Teaching of Writing, Gateway Writing Project.

Jointly housed in the Division of Teaching and Learning and the Department of English, this Graduate Certificate prepares teachers at all levels (K-12, college, adult) to improve their students' performance in writing. The program also emphasizes using writing as a means to promote learning in all content areas. All courses provide opportunities for teachers to write, revise, share feedback, and reflect on their own writing development. Based on the National Writing Project's core belief that teachers of writing must themselves be writers, the Graduate Certificate in the Teaching of Writing brings together sound pedagogy, composition theory, and writing practice.

The Certificate is an 18-hour program through the Gateway Writing Project (GWP); it may also be coordinated with other graduate programs. Certificate courses may be applicable to the M.A. in English with emphasis in composition or to various M.Ed. programs. The GWP Certificate is especially appropriate for post-master's candidates who wish to pursue a specialization in teaching writing. The Graduate Certificate in the Teaching of Writing requires a 12 semester-hour core of courses developed by the Gateway Writing Project: The GWP invitational institute (6 hrs), a designated "topics" course (3 hrs.), and an exit course (3 hrs.). The Certificate requires a minimum of 12 semester hours at the 400(5000) level or above. Electives (6 hrs.) may be chosen from approved offerings in English or Education.

Admission:

Applicants must be admitted to Graduate School and be selected by the faculty admissions committee for the Gateway Writing Project's Certificate in the Teaching of Writing. The committee will review candidates on the basis of an interview, an application essay, and supporting documentation. Criteria include experience teaching writing at any level and academic record, especially in writing and the teaching of writing.

Prerequisites:

- Eng/SecEd305(4880), "Writing for Teachers" or an equivalent course in teaching writing
- Coursework or competency in basic computer application.

Required Core Courses (12 semester hours)

- Eng317(4850)/TchEd 317(5850): Topics in the Teaching of Writing (designated topics, 3 sem. hrs.)
- Eng 490(5880)/SecEd 436(6880), future TchEd(6880): Gateway Writing Project (Invitational Institute, 6 sem. hrs.)
- TchEd. 446(6890): Seminar in Professional Writing for Teachers (exit course, 3 sem. hrs)

Electives (6 sem. hrs.)

Electives may be chosen from other Gateway Writing Project offerings OR from courses offered by the

appropriate academic department with advisor's approval. These electives must include at least one more 400(5000) level course.

Suggested electives applicable to an MA in English with writing emphasis:

- Eng. 485(5840): Theories of Writing
- Eng. 487(5860): Writing/Reading Theory
- Eng. 488(5870): Composition Research
- Eng. 489(5890): Teaching College Writing
- Eng. 410(5800): Modern Linguistics

Suggested electives applicable to an M.Ed. in Elementary or Secondary Education

- El. Ed. 387(4387): Lang. & Literacy Needs of Diverse Children
- El. Ed. 430(6430): Problems in Teaching Language Arts
- Sec. Ed. 430(6430): Problems in Teaching English in Sec. School
- El. Ed. 432(6432): Research in Language Arts
- El. Ed. 482(6482): Problems & Research in Elementary Reading
- Ed. REM 441(6714): Action Research

Courses in adult and higher education may also be appropriate. For complete information, see *The Gateway Writing Project's Graduate Certificate in Teaching Writing*, available from the English Department, from the Division of Teaching and Learning, and from the GWP Director via Continuing Education & Outreach.

Career Outlook

In addition to traditional employment as teachers at the primary, secondary, and community-college levels, recent UM-St. Louis graduates in English are working in journalism, editing, advertising, public relations, and other fields that place a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.

Course Descriptions

Courses in this section are grouped as follows:
Composition; Language; Literature; and Special Offerings.

English 10(1100) Composition, or its equivalent, is a general prerequisite for all English courses numbered 131(2310) and above. This, and other specific prerequisites, may be waived by consent of the department. **English 210(3100)** Advanced Expository Writing, its equivalent or consent of the instructor is a general prerequisite for all literature courses numbered 300(3000) and above for non-English majors.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary 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: 103(2030), 104(2040), 105(2050), 106(2060), 203, 204, 302(4020), 303(4130), 304(4140). LANGUAGE: 307(4800), 308(4810), 309(4820). LITERATURE: 12(1120), 13(1130), 14(1140), 15(1150), 16(1160), 17(1170), 20(1200), 70(1700), 71(1710), 120(2200), 123(2230), 124(2240), 125(2250), 128(2280), 131(2310), 132(2320), 133(2330), 134(2340), 135(2350), 171(2710), 172(2720), 225(3250), 280(3800), 306(4060), 321(4000), 322(4250), 323(4920), 324(4260), 325(4270), 327(4030), 329(4050), 332(4320), 337(4370), 338(4380), 339(4360), 342(4340), 345(4350), 346(4410), 352(4420), 353(4440), 364(4450), 365(4540), 368(4510), 369(4520), 371(4560), 372(4580), 373(4610), 374(4620), 375(4640), 376(4650), 380(4930), 383(4750), 384(4770), 385(4760), 386(4740), 387(4070), 388(4080), 391(4940), 395(4950). SPECIAL OFFERINGS: 250(3500), 390(4900).

Writing Courses:

10(1100) Freshman Composition (3) [C]

Teaches critical reading and thinking skills and emphasizes writing as a process. Enhances writing skills through a sequence of increasingly complex writing assignments. Class discussion and small-group workshops focus on problems of invention, organization, development, and revision in essay writing. Fulfills the campus freshman writing requirement. Does not count toward the major in English.

11(1110) Freshman Composition for International Students (3) [C]

Prerequisite: Essay proficiency test or a TOFEL score of 500 or above. Theory and practice of writing expository American prose. Special attention is given to verb tenses, idioms, articles, and syntax. Does not count toward the major in English. This course substitutes for English 10(1100) in all university requirements.

103(2030) Introduction to the Writing of Poetry (3) [C,H]

Prerequisite: English 10(1100) or equivalent. An introduction to the writing of poetry and an exploration of contemporary poems as models for the writer. Students who have taken English 106 (2060) may not take English 103 (2030) for credit. The course counts toward the Certificate in Writing.

104(2040) Introduction to the Writing of Fiction (3) [C,H]

Prerequisite: English 10(1100) or equivalent. An introduction to the writing of fiction and an exploration of contemporary short stories as models for the writer. Students who have taken English 106(2060) may not take English 104(2050) for credit. The course counts toward the Certificate in Writing.

105(2050) Introduction to the Writing of Plays (3) [C,H]

Prerequisite: English 10(1100) or equivalent. An introduction to the writing of plays and an exploration of contemporary plays as models for the writer. The course counts toward the Certificate in Writing.

106(2060) Introduction to the Writing of Poetry and Fiction (3)

Prerequisites: English 10(1100) or equivalent. An introduction to the writing of poetry and fiction and an exploration of contemporary poems and short stories as models for the writer. Students who have taken English 103(2030) or 104(2040) may not take English 106(2060) for credit. The course counts toward the Certificate in Writing.

108(2080) Advertising Copywriting (3)

(Same as Comm 108(1108)) To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting. The course counts toward the Certificate in Writing.

112(2120) Topics in Writing (3) [C,H]

Prerequisite: English 10(1100) or equivalent. This course will introduce the student to writing in specific areas. The department will announce topics and course content in the *Schedule*. Possible topics are Argumentation, Reading and Writing About Public Affairs, Sports Reporting and Writing, and Writing About Science. A student may repeat the course once when topics are different. The course counts toward the Certificate in Writing.

203 Intermediate Poetry Writing (3)

Prerequisites: English 103(2030) or 106(2060) or the equivalent or consent of instructor. Workshop in poetry writing. The course counts toward the Certificate in Writing.

204 Intermediate Fiction Writing (3)

Prerequisites: English 104(2040) or 106(2060) or the equivalent or consent of instructor. Workshop in fiction writing. The course counts toward the Certificate in Writing.

209(3090) Practical Criticism: Writing About Literature (3)

Prerequisites: English 10(1100) or equivalent and junior standing. The course acquaints students with the techniques and terminology of literary criticism and trains them in the rudiments of writing about literature. Students compose eight to ten practical, critical essays on drama, poetry, fiction, and nonfictional prose. Explication of particular texts is emphasized. A longer critical paper incorporating secondary sources and introducing students to basic methods and resources for research is assigned. The course is required of English majors but is open to all qualified students. Course does not count toward the major in English. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

210(3100) Advanced Expository Writing (3)

Prerequisites: Freshman Composition 10(1100) or equivalent (3-6 hours). This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for academic and professional settings. The course includes complex readings, focuses on persuasion and argumentation, expands upon students' research and documentation skills, and requires research in university libraries. This course fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

211(3110) Advanced Expository Writing for International Students (3)

Prerequisite: English 11(1110) or equivalent. This course will develop the student's style and critical-analytical abilities in contemporary American English writing. The course will also offer an introduction to formal research and documentation methods for preparing papers in a variety of fields. Additional emphasis will be placed on improving the student's reading abilities, both in comprehension and vocabulary. Course satisfies the junior-level communicative skills requirement. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

212(3120) Business Writing (3)

Prerequisites: Freshman composition 10(1100) or equivalent (3-6 hours) This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for business and professional settings. Writing assignments may include business correspondence, reports, resumes, proposals, analyses,

feasibility studies, and articles for in-house publications. The course emphasizes clarity, conciseness, organization, format, style, tone, and mechanical correctness; expands upon students' research and documentation skills; and requires research in university libraries. Fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

213(3130) Technical Writing (3)

Prerequisites: Freshman composition or equivalent (3-6 hours). The major elements of industrial technical writing. Writing assignments include technical definitions, abstracts and summaries, mechanism descriptions, instructions, process analyses, technical reports and proposals. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course includes an introduction to research methods and documentation. All readings are selected from industrial material. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

214(3140) News Writing (3)

(Same as Comm 214(3214) Prerequisite: English 10(1100) or equivalent. An introduction to news writing and reporting. Course covers basic components of news, reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed. The course counts toward the Certificate in Writing.

215 (3150) Feature Writing (3)

Prerequisite: English 10(1100) or equivalent. Study of free-lance and staff-written magazine or newspaper feature articles. Emphasis on relationship between types of publication and article content, research methods, and writing style. Frequent short assignments--journal entries, interviews, library projects, article critiques, and market reports--lead to production of full-length feature articles. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

216(3160) Writing in the Sciences (3)

Prerequisite: Freshman composition 10(1100) or equivalent (3-6 hours). Designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals and a major project. Students are encouraged to select projects that will reflect work in a science course which may include a research or analytical report, a formal proposal or a procedures/instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course will include an introduction to research methods and documentation. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

218(3180) Reporting (3)

Prerequisite: English 214(3140) or equivalent. Theory and practice of reporting news for publication in the print media. Includes one classroom session and one field assignment weekly. Stories must be filed within deadline limits. Writing emphasis is on clarity, conciseness, and accuracy. The course counts toward the Certificate in Writing.

228(3280) Public Relations Writing (3)

(Same as Comm 228(2228) Prerequisite: English 214(3140) or equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals. The course counts toward the Certificate in Writing.

303(4130) Advanced Poetry Writing (3)

Prerequisite: English 210 (3100) or equivalent; English 103(2030) or 203 or consent of instructor; recommended prerequisite: 133(2330). Advanced workshop in poetry writing. The course counts toward the Certificate in Writing.

304(4140) Advanced Fiction Writing (3)

Prerequisite: English 210(3100) or equivalent; English 104(2040) or equivalent or consent of instructor. Advanced workshop in fiction writing. The course counts toward the Certificate in Writing.

305(4880) Writing for Teachers (3)

(Same as SEC ED 305(4880) Designed for prospective as well as in-service teachers, the course includes: (1) writing - short papers to be shared in workshop groups; (2) reading - current theory and research on writing and the implications for teachers; (3) teaching- classroom activities that foster growth in writing. The course counts toward the Certificate in Writing.

313(4870) Advanced Business and Technical Writing (3)

Prerequisite: English 210(3100) or its equivalent as judged by instructor. An advanced, project-oriented course to produce substantial, multifaceted business and technical writing projects. These might include reports, manuals, proposals, Web projects, computer documentation, or other advanced written assignments. These projects demonstrate the ability to handle complex assignments requiring initiative, independent work, and professional-level writing skills. The course counts toward the Certificate in Writing.

317(4850) Topics in the Teaching of Writing (3)

(Same as Edu (317(4850). Prerequisites: English 210(3100) or equivalent. Special topics in the practice of and pedagogy of writing designed for in-service teachers. Topics may include writing at specific grade levels, writing/reading workshops, writing in urban settings, writing across the curriculum, action research, new technology, classroom and district-level assessment. May be repeated once for credit if topics differ. The course counts toward the Certificate in Writing.

319(4860) Editing (3)

Prerequisites: English 210(3100) or equivalent as judged by instructor; English 122(2810) or 308(4810). Introduction to language and processes of editing. Includes copy editing, study of style manuals, and overview of production process. The course counts toward the Certificate in Writing.

320(4890) Independent Writing Project (3)

Prerequisite: English 210(3100) or its equivalent as judged by instructor. Course limited to students who are completing their certificates in writing. May be taken concurrently with the final course in the certificate sequence. Students work either individually or with an instructor to complete an extensive creative writing project or an internship.

329(4050) Forms and Modes of Poetry (3)

Prerequisite: English 209(3090) prerequisite or corequisite. An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and master-pieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g., Yeats, McKay, Bogan, Auden).

396(4160) Special Topics in Writing (3)

Prerequisites: English 210 (3100) or equivalent. Special topics in writing that are not covered in other 300-level English courses. Since the topics of English 396 (4160) may change each semester, the course may be repeated for credit if the topics area substantially different and consent of the instructor is given. The course counts toward the Certificate in Writing.

455(5120) Graduate Workshop in Poetry and Fiction (3)

Prerequisite: Open to students in the MFA program and to others with consent of the instructor. Consists of a writing workshop in which the poetry and fiction written by the students enrolled in the course are discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry and/or fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

456(5130) Graduate Workshop in the Novel (3)

Prerequisite: Consent of the instructor, based on submission of sample of novel manuscript. A writing workshop in which a novel written by the student is discussed and analyzed by the instructor and members of the class. Students must have a complete novel manuscript (50,000 words minimum) ready for discussion by the beginning of class. May be repeated for maximum graduate credit of fifteen (15) hours.

457(5140) Graduate Workshop in Nonfiction (3)

Prerequisites: Open to students in the MFA program and to others with permission of the instructor. A variable-topics writing workshop focusing on one or more of the following forms: personal essay, memoir, travel writing, literary journalism, biography, or other types of literary nonfiction. May be repeated for maximum graduate credit of fifteen (15) hours.

458(5170) Techniques, Methods, and Effects in Fiction Writing (3)

Prerequisites: Open to students in the MFA program and to others with consent of the instructor. This course analyzes the technical choices made by important contemporary fiction writers in the area of point of view, tone, seeing, form, and plot structure, and it examines the effects of those choices. Close consideration is given to fictional techniques that contribute to a story's characterization, tension, interest, reliability, drama, irony, and humor. The course is primarily for creative writers.

459(5190) Literary Journal Editing (3)

Prerequisite: Open to students in the MFA program who have had at least two graduate writing workshops and to others with permission of the instructor. In this course students serve as the first readers of all submissions to the university's literary magazine, *Natural Bridge*. Students will read and evaluate poems, short stories, and essays and recommend a body of work to the editorial board of the magazine. The editorial board will then consider the class consensus in its final selection of material for publication. In addition to this primary task of editorial selection, students will also be involved in the production of an issue of the magazine. May be repeated for maximum graduate credit of nine hours.

485(5840) Theories of Writing (3)

An analysis of major modern theories in composition.

487(5860) Writing/Reading Theory (3)

The parallel evolution of reading and writing theory and pedagogy. Topics include the influence of psycholinguistics and reader-response theory and the link between reading and writing theory and instruction.

488(5870) Composition Research (3)

Students analyze and conduct research in composition. Course work teaches students to evaluate methodologies and implications, and to analyze data and to design research.

489(5890) Teaching College Writing (3)

Provides the opportunity for practical application of composition theory with an emphasis on improving teaching skills. Strongly recommended for graduate teaching assistants.

490(5880) Gateway Writing Project (1-6)

(Same as SecEd 436(6880), Tch Ed(6880). An intensive course in the writing process and the writing curriculum, designed for experienced teachers. Readings of current theory and research will be related to participants' experiences as writers and as teachers. Topics may vary. May be repeated for credit. No more than six hours may be applied toward the M.Ed. Counts toward the Certificate in Writing.

491(5850) Studies in Composition (3)

The study of special topics in composition. Topics may include history of composition, psychology of writing, reader-response theory, etc.

492(5100) Graduate Workshop in Poetry (3)

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the poetry written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry throughout the course. May be repeated for maximum graduate credit of fifteen hours.

493(5110) Graduate Workshop in Fiction (3)

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the fiction (short stories or chapters of a novel) written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

494(6010) Final Writing Project (3-6)

Prerequisite: Successful completion of 15 hours in graduate creative writing courses or permission from instructor. An independent writing tutorial taken by students after they have completed all other creative writing course work. Completion of the project requires a substantial body of original poetry or fiction. May be repeated for maximum graduate credit of six (6) hours.

496(5200) MFA Readings (3)

Prerequisites: Open to students in the MFA program and to others with consent of the instructor. This is an independent readings course. In consultation with an MFA faculty member, students choose works from the MFA Reading List and read them with the goal of broadening and sharpening their technical skills as writers. Students ordinarily choose works in one genre: poetry, the short story, or the novel. Each week the student reads and reports on at least one work. The course may be taken only once.

Language Courses:

122(2810) Traditional Grammar (3) [C]

An introduction to the terms and concepts of traditional grammar, beginning with the parts of speech and moving to more complex structures such as participles, gerunds, and clauses. The course also deals with the conventions of formal usage and punctuation.

307(4800) Linguistics (3)

Prerequisite: English 210(3100); majors, English 209(3090). A survey of linguistics with emphasis on what the field reveals about the English language. Topics include the sounds of language, grammar, writing systems, language acquisition, language in society, language history, dialects, and usage.

308(4810) English Grammar (3)

Prerequisite: English 210(3100); majors, English 209(3090). A study of modern English grammar from the perspectives of traditional, structural, and transformational grammar.

309(4820) History of the English Language (3)

Prerequisite: Prerequisites: English 210(3100) or equivalent. A historical survey of the English language from its Indo-European roots through Old and Middle English to the present. Topics include changes in sound, meaning, and grammar, as well as developments in American English, including regional and social dialects.

410(5800) Modern Linguistics (3)

A study of selected topics in the structure of the English language, combining readings in current linguistics publications with original research.

Literature Courses:

12(1120) Literary Types (3) [C,V,H]

The student is introduced to the various literary types, including poetry, drama, fiction, and the essay.

13(1130) Topics in Literature (3) [C,H]

Introduces the student to selected literary topics and/or genres. Each semester the department will announce topics and course content. Topics such as alienation, justice, and the absurd, and genres such as science fiction and contemporary drama are typical possibilities.

15(1150) Images of the Elderly in Film (3)

(Same as Gerontology 15(1115).) Analysis of the portrayal of older adults in various films. Class discussions focus on the style and thematic content of the film, as well as intergenerational relationships.

16(1160) Images of Age in Literature (3)

(Same as Gerontology 16(1116).) Reading and discussion of literature that portrays aging and old age in various settings. Emphasis is on contemporary novels, but poetry and drama such as *King Lear* are read as well. Discussion and short essays enable consideration of how literature helps in the study of aging and also how the process of aging can be a creative force within literature.

17(1170) American Literary Masterpieces (3)

An introduction to major themes and works in American literature from the nineteenth century to the present. Selected works from Hawthorne, Poe, Melville, Whitman, Twain, James, Frost, Hemingway, Faulkner, O'Connor, Plath, and Bellow.

20(1200) Myth (3) [C,V,H]

The nature of myth, with some consideration of the various theories used to account for its origins. An examination of central mythic motifs, images, and characters. While some attention will be given to comparing the mythologies of different cultures, the emphasis will be on reading Classical Greek and Roman mythology.

70(1700) African-American Literature (3) [C,H]

A survey of prose, poetry, and drama by black Americans from the period of enslavement through the Harlem Renaissance to the present.

71(1710) Native American Literature (3) [C,CD,H]

(Same as Anthropology 71.) Surveys the literature of American Indians from its oral tradition of myth, legend, song, and oratory through its modern forms. The course satisfies the ethnic literature requirement for Missouri state certification in Secondary Education and the College of Arts and Sciences Cultural Diversity requirement.

120(2200) Classical Literature in Translation (3) [C,V,H]

The civilization of ancient Greece and Rome as reflected by their major creative writers in some of their principal works: the epics of Homer and Vergil; the plays of 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.

123(2230) Jewish Literature (3) [C,H]

Examines the traditional Jewish literature of the Bible and later legends found in the Talmud and Midrash and also considers later phases of Jewish literature, both sacred and secular. These include medieval folklore and Hasidic tales.

124(2240) Literature of the New Testament (3) [C,H]

A comprehensive understanding of the New Testament, its literary background, and significance for Western civilization.

125(2250) Literature of the Old Testament (3) [C,H]

Prerequisite: Sophomore standing or consent of instructor. A comprehensive understanding of the Old Testament, its literary background, and significance for Western civilization.

128(2250) The Contemporary World in Literature (3) [V,H]

Selected world literature since the second World War from the Middle East, Europe, Latin America, Africa, India, and Asia with emphasis on non-European literatures. This course excludes literature from the United States and England and it satisfies the College of Arts and Sciences Cultural Diversity requirement.

131(2310) English Literature I (3) [C,H]

The development of English literature from the Middle Ages through the eighteenth century. Reading and analysis of representative works of selected major writers.

132(2320) English Literature II (3) [C,H]

The development of English literature during the nineteenth and twentieth centuries. Reading and analysis of representative works of selected major writers.

133(2330) Introduction to Poetry (3) [C,H]

A close study of poems, with special emphasis on the varieties of poetic forms, and the means of interpretation and evaluation. The works studied will be primarily English and American, and from at least three different centuries.

134(2340) Introduction to Drama (3) [V,H]

A close study of major dramatic works in various modes, to introduce the student to the forms and techniques of dramatic literature. The works studied will be primarily English and American, and from at least three different centuries.

135(2350) Introduction to Fiction (3) [C,H]

A close study of major prose fiction, with particular attention to the varieties of fictional forms and techniques. The works studied will be primarily English and American, and from at least three different centuries.

171(2710) American Literature I (3) [C,H]

Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century.

172(2720) American Literature II (3) [C,H]

Representative selections from American authors from the middle of the nineteenth century to the present. Fulfills the requirement for Missouri Teacher Certification of a unit in literature of American ethnic groups" and a unit in American literature for adolescents."

280(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 English 280(3800) may change each semester, the course may be repeated for credit if the topics are substantially different.

306(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.

321(4000) History of Literary Criticism (3)

Historical survey of the principles of literary criticism from Plato to the present.

322(4250) Old English Literature (3)

Prerequisite: English 210(3100); or, for majors, English 209(3090) prerequisite or corequisite and English 131(2310) prerequisite or permission of instructor. An introduction to the literary culture of Anglo-Saxon England through study of the Old English language and close reading of a diverse group of Old English texts from the eighth to eleventh centuries.

323(4920) Continental Fiction (3)

Prerequisites: Two college courses in literature. The development of the European novel in the nineteenth and twentieth centuries. Representative works of writers such as Balzac, Flaubert, Dostoevsky, Tolstoy, Kafka, and Proust, read in translation.

324(4260) Chaucer (3)

Concentrates on the poetry of Geoffrey Chaucer, including the *Canterbury Tales*, early poetic works, and the *Troilus and Criseyde*. All readings are in the original Middle English.

325(4270) Medieval English Literature (3)

A survey of old and middle English literature from Beowulf to Malory's *Morte d'Arthur*, exclusive of Chaucer. All works are read in modern English translations.

327(4030) Contemporary Critical Theory (3)

This course is to acquaint students with a range of critical methodologies that have gained currency since the 1960s. The kinds of criticism considered include formalist (New Critical, Russian, and Aristotelian), structuralist, post-structuralist, Marxist, reader-response, psycho-sexual, and feminist.

329(4050) Forms and Modes of Poetry (3)

An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g., Yeats, McKay, Bogan, Auden).

332(4320) Elizabethan Poetry and Prose (3)

Spenser, Sidney, Wyatt, and other poets of the later sixteenth century. The origin and development of prose fiction.

337(4370) Shakespeare: Tragedies and Romances (3)

The development of Shakespeare's concept of tragedy and tragicomedy from *Titus Andronicus* to *The Tempest*. The plays will be related to the social and literary milieu of the period.

338(4380) Shakespeare: Comedies and Histories (3)

Shakespeare's early work for the theater with some attention to the sonnets and longer poems. An historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage, and Shakespeare's biography.

339(4360) Tudor and Stuart Drama (3)

A survey of the dramatic writings of the period from the interludes of John Heywood to the closing of the theaters in 1642, with particular attention to the plays of Marlowe, Jonson, Webster, and Ford. Though Shakespeare will not be studied in this course, connections between his works and those of his contemporaries will be discussed.

342(4340) Early Seventeenth-Century Poetry and Prose (3)

Donne, Jonson, Marvell, Bacon, and other poets and essayists of the Metaphysical, Cavalier, and Baroque schools, exclusive of Milton.

345(4350) Milton (3)

All the minor poems and the three longer poems with some attention to the major prose; Milton and his relation to the politics, theology, and literature of the seventeenth century.

346(4410) Restoration and Eighteenth-Century Drama (3)

The principal tragedies and comedies from Dryden to Sheridan, including the plays of Congreve, Farquhar, Rowe, Gay, Fielding, and Goldsmith, among others.

352(4420) Age of Dryden and Pope (3)

The beginnings of English neoclassic literature in the Restoration and its development through the first half of the eighteenth century, focusing on Dryden, Swift, and Pope.

353(4440) Age of Johnson (3)

The breakdown of the neoclassic spirit and the introduction of the "new" poetry and novel. Consideration of Fielding, Johnson, Thompson, Young, Goldsmith, Sheridan, and others.

364(4450) The Eighteenth-Century English Novel (3)

The origins and early development of the English novel, from Defoe to Jane Austen.

365(4540) The Nineteenth-Century English Novel (3)

Novels of the Romantic and Victorian Periods, from Austen to George Eliot.

368(4510) Early Romantic Poetry and Prose (3)

The English romantic movement with special emphasis on the early writers--Blake, Wordsworth, and Coleridge. Additional readings in selected prose writers and minor poets.

369(4520) Later Romantic Poetry and Prose (3)

The English romantic movement with special emphasis on the later writers--Byron, Shelley, and Keats. Additional readings in selected prose writers and minor poets.

371(4560) Prose and Poetry of the Victorian Period (3)

Critical readings of selections from Tennyson, Browning, Arnold, and others, in addition to selections from the major prose writing.

372(4580) Literature of the Late Nineteenth and Early Twentieth Centuries (3)

Literature of the period between 1870 and the First World War, including works by writers such as Hardy, Conrad, James, Wilde, Stevenson, Shaw, Jefferies, and Wells.

373(4610) Selected Major American Writers I (3)

American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others.

374(4620) Selected Major American Writers II (3)

American literature of the late nineteenth and early twentieth centuries: James, Twain, Stephen Crane, Dreiser, and others.

375(4640) American Fiction to World War I (3)

Development of the novel and short story in America.

376(4650) Modern American Fiction (3)

The novel and short story in America since World War I. There may be some attention to British and continental influences.

380(4930) Studies in Women and Literature (3)

The course examines feminist critical approaches to literature, the appropriation or transformation of literary genres by women writers, or the writings of women during a particular historical period. Specific topics vary from semester to semester. The course may be repeated for credit if topics are substantially different.

383(4750) Modern British Fiction (3)

Critical reading and analysis of British fiction of the twentieth century. There may be some attention to American and continental influences.

384(4770) Modern Poetry (3)

Critical reading and analysis of poetry of the late nineteenth and early twentieth centuries: Yeats, Eliot, Frost, Williams, and others.

385(4760) Modern Drama (3)

British, American, and European drama of the last one hundred years: the well-made play, the problem play, verse drama, new definitions of tragedy, the angry theater, theater of the absurd.

386(4740) Poetry Since World War II (3)

Reading and analysis of contemporary poetry.

387(4070) The Two Cultures: Literature and Science (3)

Prerequisite: English 132(2320); English 209(3090), (may be taken concurrently). Surveys the history of the debate about the relations between literature and science, beginning with the exchange between Arnold and Huxley in the Victorian period, continuing through the debate between Leavis and Snow at mid-century, and concluding with current controversies and with current efforts at interdisciplinary synthesis.

388(4080) Narrative, Cognition, and Emotion (3)

Prerequisite: English 132(2320); English 209(3090), prerequisite or co-requisite. Examines narrative theory in the light of recent research into cognitive organization and the structure of the emotions. Traditional and contemporary theories of narrative--of realism, symbolism, point of view, tone, and genre--are developed through recent findings in empirical science. A variety of stories

and novels are used as test cases for theoretical propositions.

391(4940) Special Topics in Jewish Literature (3)

Intensive readings, critical discussion, and writing on topics relating to Jewish literature. Topics to be announced. This course may be repeated for credit if the topics are substantially different.

395(4950) Special Topics in Literature (3)

Special topics in literature that are not covered in other 300(4000)-level English courses. Since the topics of English 395(4950) may change each semester, the courses may be repeated for credit if the topics are substantially different.

400(5000) Introduction to Graduate Study in English (3)

A course designed to prepare students for the professional study of English. The course will both familiarize students with basic bibliographic tools and scholarly methods and introduce them to issues that are of current critical interest to those engaged in the advanced study of literature. These issues include gender, textuality, reader-response, multiculturalism, feminism, psychoanalysis, cultural studies, literary history and the relationship of literature to philosophy, history and science. Must be taken within the first twelve hours of graduate study.

415(5030) Literary Criticism (3)

An examination of selected theories of literature.

416(5040) Feminist Critical Theory (3)

Prerequisite: Graduate standing and consent of instructor. A consideration of feminist critical theory as a means of reassessing literary texts and our cultural heritage. After exploring the roots of feminist criticism, the seminar will examine Anglo-American and continental debates on theories of language, writing and representation. In providing an interdisciplinary context the course will consider studies in psychology, anthropology, history, and philosophy/theology which have influenced and enriched feminist approaches to literature.

421(5250) Studies in Middle English Literature (3)

Special topics in English literature before 1500.

430(5300) Renaissance Literature (3)

Special topics in English literature from 1500 to 1660.

450(5400) Eighteenth-Century Literature (3)

Studies in Augustan poetry and prose, including drama and fiction, with emphasis on background and major figures.

460(5910) Studies in Poetry (3)

Study of a few selected British and American poets.

465(5920) Studies in Fiction (3)

Study of a few selected British and American novelists and short story writers.

467(5930) Studies in Drama (3)

Study of a few selected British and American dramatists.

470(5500) Nineteenth-Century Literature (3)

Special topics in English romanticism, in Victorian life and thought, and in the development of the novel and of poetry between 1797 and 1914.

475(5600) American Literature Before 1900 (3)

Selected American writers or topics from the Colonial period to 1900.

476(5700) Twentieth-Century American Literature (3)

Selected American writers or topics from 1900 to the present.

480(5750) Twentieth-Century British Literature (3)

Selected British and Commonwealth writers of the twentieth century.

495(5950) Seminar in Special Topics (1-3)

Special topics which are not covered in other graduate-level English courses.

497(5970) Independent Reading (1-3)

Directed study in areas of English for which courses are not available.

499(6000) Thesis (6)

Prerequisite: 3.5 graduate G.P.A. Thesis research and writing on a selected topic in English studies.

Special Offerings

250(3500) Special Studies (1-3)

Prerequisites: A course in the area of proposed work and consent of instructor. Individual work, with conferences adjusted to needs of the student. May not be used to meet specific English department distribution and language requirements. May be repeated for a maximum total of three hours credit.

262(3600) The Curriculum and Methods of Teaching English (3)

Prerequisites: Completion of Level II courses and a near major in the subject area. (Same as Sec Ed 232(3600)). A study of the scope and sequence of the English courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Includes field experiences. The course prepares students for reflective teaching by relating course readings to field experiences and theory to practice. To be taken prior to student teaching and concurrently with professional internship. This course must be completed in residence.

270(3700) English Student Teaching Seminar (2)

(Same as Sec Ed 270(3700)). A seminar in the integration of English curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec Ed 290(3290).

390(4900) Seminar (3)

Prerequisite: Consent of instructor. Intensive reading, critical discussion, and writing on topics to be announced each semester. Since the topics of English 390(4900) may change each semester, the course may be repeated for credit if the topics are substantially different. Enrollment limited to twelve students.

Department of Foreign Languages and Literatures

Faculty

Rolf R. Mueller, Assistant Professor, German,
Chairperson
Ph.D., University of Kansas

Roland A. Champagne, Professor*, French,
Ph.D., Ohio State University

Lorna V. Williams, Professor*, Spanish
Ph.D., Indiana University

Jeanne Morgan 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

Alfred F. Goessl, Associate Professor Emeritus*, German
Ph.D., Tulane University

Ingeborg M. Goessl, Assistant Professor Emerita*,
German
Ph.D., University of Kansas

Paul R. Hoffman, Assistant Professor Emeritus, German
M.A., University of Michigan

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

Zayda Arrillaga, Lecturer, Spanish
M.A., Harvard University

Deborah Baldini, Senior Lecturer, Spanish
M.A., Washington University

Rita Bergoudian, Senior Lecturer, French
M.A., University of South Carolina

Anne-Sophie Blank, Senior Lecturer, French
M.A., Washington University

Martha Caeiro, Lecturer, Spanish
M.A., Washington University

Donna Cays, Lecturer, Spanish
M.A., Saint Louis University

Elizabeth Eckelkamp, Lecturer, Japanese
M.A., Washington University

Nancy Mayer, Lecturer, ESL
M.A.T., Webster University

Denise Mussman, Lecturer, ESL
M.A., University of Illinois-Chicago

Birgit Noll, Lecturer, German
M.A., Washington University

Margaret B. Phillips, Senior Lecturer, Latin
Ph.D., Saint Louis University

Sandra Trapani, Lecturer, French
M.A., University of Missouri-Columbia

Susana Walter, Senior Lecturer, Spanish
M.A., Washington University

Susan Yoder-Kreger, Lecturer, Spanish
M.A., University of Virginia, Charlottesville
*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The Department of Foreign Languages and Literatures offers course work in French and Spanish, leading to the B.A. degree, and a field of concentration in each of these languages for students seeking the B.S. degree in education. In addition, the department offers lower-level courses in Chinese, English as a Second Language, German, Modern Greek, Italian, Japanese, and Latin.

A minor in French, German, or Spanish may also be earned in the department. For details, see specific requirements for the minor, which appears later in this section.

The department maintains a library where books, journals, magazines, and other foreign language realia are available to students, and a language resource center with audiovisual and computer materials.

Cooperative Study

Courses in other languages are available to UM-St. Louis students through Washington University, Saint Louis University, Harris-Stowe State College, and SIU-Edwardsville. For information, consult the UM-St. Louis registrar's office.

Study Abroad

Language students who have been at the University of Missouri-St. Louis at least one semester and have studied the language at least one year may receive credits for formal study abroad during the summer. Prior consent of the department must be obtained for summer courses abroad, and the student must present a transcript for evaluation. Exchange programs are available with several universities in foreign countries. For information, contact the study abroad office.

Alumni Scholarship

Qualified junior and senior language majors may apply for the Foreign Language Alumni Scholarship, which is renewable each semester on a competitive basis. For information, contact the department.

Community College Scholarship

Qualified community college students may apply for the Foreign Language Community College Scholarship to be applied for educational fees toward the enrollment in third semester or higher courses in French, German, or Spanish. This scholarship must be used within one semester of the award. For information, contact the department.

German Scholarships

Students of German may apply for UM-St. Louis Summer Abroad scholarships that will partially finance their summer studies abroad. For information, contact the department.

Departmental Honors Candidates for departmental honors in French or Spanish must meet the following requirements:

- 1) Achieve a GPA of 3.5 in the major for all hours attempted beyond the first two semesters. (Language Courses 001(1001) and 002(1002).
- 2) Maintain an overall GPA of 3.0.
- 3) Successfully complete an honors thesis or project.

Undergraduate Studies

General Education Requirements

Each language major must satisfy the general education requirements of the university and the general education requirements of the College of Arts and Sciences. Any literature or civilization course offered by the department may be used to meet the humanities requirement.

Satisfactory/Unsatisfactory Option

Students who have fulfilled the language requirement (13 hours: Language Courses 001(1001), 002(1002), and 101(2101) may enroll in a second language on a satisfactory/unsatisfactory basis.

Specific Requirements or Restrictions

Students entering with no high school language units must enroll in Language 001(1001) or may enroll in Language 115(2115). Language 115 (a, b, and c)(2115) is the intensive study of a language and will satisfy the foreign language requirement.

115(2115)a, 115(2115)b, and 115(2115)c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better, to satisfy the foreign language requirement.

A grade of D in a Language 001(1001) course is a passing grade but not an entrance grade for a Language 002(1002) course. A grade of D in a Language 002(1002) course is a passing grade but not an entrance grade for a Language 101(2101) course or its equivalent. A grade of D in a Language 101(2101) course fulfills the language requirement, but is not an entrance grade for a higher-level course.

Demonstration of a high level of proficiency may reduce the number of hours required for the major. Native speakers of a foreign language should consult with the department concerning appropriate placement.

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 002(1002) course in the language selected with a grade of C- or better. Any major who receives a grade of D in any course required for the major must repeat that course. No course required for the major may be taken on a satisfactory/unsatisfactory (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 001(1001) and 002(1002)). The maximum number of hours that may be taken in the major is 45 (including Language 001(1001) and 002(1002)). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 264(3264) (same as SEC ED 274(3274), Curriculum and Methods of Teaching Foreign Languages, Course 364(4364) (same as SEC ED 374(4374), Foreign Language Teaching Seminar, and fulfill the professional secondary education requirements of the College of Education.

Bachelor of Science in Education Those students seeking the B.S.Ed. degree, with a concentration in a foreign language, are required to complete 30 hours of work (excluding credit for Language 001(1001) and 002(1002)), of which 12 hours must be on the 300 level. Students working toward a degree in elementary education, with related work in a foreign language, should consult the College of Education concerning their program.

Transfer Students

Transfer students majoring in one of the foreign languages must complete at UM-St. Louis a minimum of 12 graded hours in language courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Native Speakers

Native speakers must complete five courses in the 200 level or above to obtain a major in their native language.

Specific Requirements for the Major

French

Each major in French must complete the following courses:

- 101(2101), Intermediate French Language and Culture, or the equivalent
- 170(2170), Composition and Conversation
- 180(2180), Readings in French
- 200(3200), Advanced Grammar
- 211(3211), Contemporary French Civilization

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280(3280), French Literature I: Middle Ages to Eighteenth Century

281(3281), French Literature II: Nineteenth and Twentieth Centuries

and four courses at the 300-level.

The following courses are also strongly recommended:

German 110(2110), Masterpieces of German Literature in Translation

Spanish 110(2110), Spanish Literature in Translation

History 351(4351), Contemporary France: Since 1870

Spanish

Each major in Spanish must complete the following courses:

101(2101), Intermediate Spanish Language and Culture, or **105(2105)** Commercial Spanish, or the equivalent

Two of the following three:

171(2171), Spanish Conversation and Pronunciation

172(2172), Spanish Composition

180(2180), Readings in Spanish

200(3200), Syntax of the Spanish Language

210(3210), Hispanic Culture and Civilization: Spain, or

211(3211), Hispanic Culture and Civilization: Spanish America

280(3280), Introduction to Hispanic Literature: Spain

281(3281), Introduction to Hispanic Literature: Spanish America

and four courses at the 300-level, one of which must be: **399(4399)**, Seminar on Hispanic Literature

The following courses are also strongly recommended:

French 110(2110), Modern French Literature in Translation, or **150(2150)**, European Literature in Translation: Special Topics

German 110(2110), Masterpieces of German Literature in Translation

History 355(4355), History of Spain

History 371(4371), History of Latin America: to 1808

History 372(4372), History of Latin America: Since 1808

PolSci 253(3253), Political Systems of South America

PolSci 254(3254), Political Systems of Mexico, Central America, and the Caribbean

Specific Requirements for the Minor

A minor in French, German, or Spanish requires the completion of four courses in the language beyond the basic foundation sequence (Language 1, Language 2, and Language 101(2101)). Transfer students must complete at

least two courses for the minor at UM-St. Louis. All courses must be passed with a grade of C- or better.

French

170(2170), Composition and Conversation

180(2180), Readings in French

Plus two French courses on the 200-level or above.

German

170(2170), Composition and Conversation

180(2180), Readings in German

Plus two German courses on the 200-level or above.

Spanish

Two of the three

171(2171), Conversation and Pronunciation

172(2172), Composition

180(2180), Readings in Spanish

Plus two Spanish courses on the 200-level or above.

Students pursuing a graduate degree in secondary education may select an emphasis area in French, German, or Spanish. These required eighteen hours may be selected from 300 and 400 level courses in these languages.

Certificate in Foreign Language and Study Abroad

Students seeking the certificate must complete language courses at UM-St. Louis and abroad. The Center for International Studies and the Department of Foreign Languages and Literatures cooperate in offering the Certificate.

1) Foreign language study at UM-St. Louis

Students must select one of the following languages and complete the required courses at UM-St. Louis. Total: 6 credit hours.

A. French

French 170(2170), Composition and Conversation
French 180(2180), Readings in French

B. German

German 170(2170), Composition and Conversation
German 180(2180), Readings in German

C. Spanish

Spanish 172(2172), Spanish Composition
Spanish 180(2180), Readings in Spanish

2) Foreign language study abroad

Students must complete two additional three credit hour courses, in language or literature, taught in the same target language selected above, at a foreign university that is affiliated with the UM-St. Louis Study Abroad Program, towards the goal of increasing competence in the target language. Total: 6 credit hours. All courses must be approved by the Department of Foreign Languages and Literatures.

Students should consult the study abroad advisor in the Center for International Studies to select a site for their study abroad experience. Then, students should consult their advisor in the Department of Foreign Languages and Literatures to select appropriate courses.

Career Outlook

Graduates with a foreign language degree may elect to enter the fields of teaching, business, journalism, communications, or government, or to pursue advanced degrees in their specialty. It is especially recommended that students consider a double major or another discipline and a language. A language then becomes an asset that makes graduates more adaptable to the demands of international communication in their second major discipline and hence more competitive and marketable upon completion of the B.A. degree.

Course Descriptions

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary 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: 101(2101), 110(2110), 150(2150), 180(2180), 211(3211), 280(3280), 281(3281), 331(4331), 341(4341), 342(4342), 353(4353), 354(4354), 362(4362), 365(4365), 371(4371), 375(4375), 390(4390). GERMAN: 101(2101), 110(2110), 150(2150), 180(2180), 201(3201), 202(3202), 210(3210), 311(4311), 315(4315), 320(4320), 345(4345), 397(4397), 398(4398), 399(4399). ANCIENT GREEK: 101(2101). MODERN GREEK: 101(2101). ITALIAN: 101(2101). JAPANESE: 101(2101). LATIN: 101(2101). SPANISH: 101(2101), 110(2110), 111(2111), 150(2150), 180(2180), 210(3210), 211(3211), 280(3280), 281(3281), 310(4310), 315(4315), 320(4320), 321(4321), 325(4325), 330(4330), 331(4331), 335(4335), 340(4330), 345(4345), 351(4351), 360(4360), 399(4399).

111(2111) Love in the Western World (3)

This course will examine concepts of love in western literary traditions. Its main focus will be concepts of love from Greek and Roman antiquity and Christianity, and the ways that these concepts have shaped modern ideas of love. Emphasis on language and culture is also important in interpreting the texts.

264(3264) Curriculum and Methods of Teaching Foreign Languages (3)

(Same as SEC ED 274(4274).) Prerequisites: TEACHER EDUC 310(4310) and passing the departmental language skills test. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign languages. To be taken prior to student teaching. This course must be completed in residence.

300(4300) Language Acquisition and Analysis (3)

The nature of human language, including language universals, sounds and sound patterns, word formation, and language processing. Students will be acquainted with first and second language acquisition, and will analyze data from various languages. Recommended for teachers of English and foreign languages.

364(4364) Foreign Language Teaching Seminar (2)

(Same as Sec Ed 374(4374).) Prerequisite: Concurrent enrollment in Sec Ed 290(3290) or consent of instructor. A

practicum course in the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of FLL 264(3264), Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with Sec Ed 290(3290), Student Teaching.

399(4399) Standards-Based Foreign Language Instruction (3)

Prerequisites: Teacher certification and one year teaching experience. Designed to provide in-service foreign language teachers with the background to enable them to design instructional units, which incorporate the standards for foreign language learning. May be applied toward the Master's in Secondary Education with an emphasis in foreign language teaching.

464(5464) Issues in Foreign Language Methodology (3)

Prerequisite: Foreign language education certification and teaching experience. Designed for secondary foreign language teachers, this course addresses recent developments in approaches and methods in the teaching of foreign languages. Emphasis is on curriculum design, teaching strategies, and evaluation.

Chinese

Courses in Chinese are taught on the UM-St. Louis campus by faculty of Washington University, through the Joint Center for East Asian Studies.

001(1001) Chinese I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese and upon the acquisition of the fundamentals of grammar and syntax.

002(1002) Chinese II (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese. Continuation of the acquisition of the fundamentals of grammar and syntax.

101(2101) Intermediate Chinese I (5)

Prerequisite: Chinese II or equivalent. Grammar review and continued development of language skills.

102(2102) Intermediate Chinese II (5)

Prerequisite: Chinese 101(2101) or equivalent. Continuation of Chinese 101(2101).

190(2190) Special Readings (1-3)

Prerequisite: Chinese 102(2102) or consent of the department. Independent study through readings, reports, and conferences.

English as a Second Language

201(3201) ESL Listening and Speaking Skills (3)

Prerequisite: Minimum TOEFL score of 450 or placement by examination. This course is for international students. They gain skills in conversational level listening and speaking. Students improve comprehensive and discrete listening skills, conversation in various situations, strategies and pronunciation. In addition, students will practice these skills and learn about American culture by participating in local field trips. This course does not count toward a degree.

203(3203) Intermediate ESL Reading and Writing (3)

Prerequisite: Minimum TOEFL score of 450 or placement by examination. In this course international students develop fluency in their reading and writing skills in American English. This course consists of reading a variety of types of written texts, vocabulary building, organization in writing from the paragraph to essay, techniques for generating ideas, grammar use and editing. This course does not count toward a degree.

205(3205) Intermediate ESL Grammar (3)

Prerequisite: Minimum TOEFL score of 450 or placement by examination. A course for international students who have already studied Basic English grammar. The content covers intensive study of verb tenses; their forms, meanings an integrated use; and other grammatical structures. This course does not count toward a degree.

301(4301) Advanced ESL Conversation and Pronunciation (3)

Prerequisite: Minimum TOEFL score of 500. Designed for non-native speakers who need to improve their fluency and pronunciation in American English. Conversation strategies, oral presentations and extensive practice to reduce accent are included. This course does not count toward a degree.

302(4302) Advanced ESL Listening and Note-taking (2)

Prerequisite: Successful completion of ESL 201(3201), minimum TOEFL score of 500 or placement by examination. Listening and note-taking skills are developed through practice. Students learn to recognize the organization and emphasis of class lectures. Strategies include vocabulary building, test taking, and participation in class discussions. This course does not count toward a degree.

303(4303) Advanced ESL Reading and Writing (3)

Prerequisite: Successful completion of ESL 203(3203), minimum TOEFL score of 500 or placement by examination. To prepare students for English 10(1100) or English 210(3210), writing skills include organization of essays, rhetorical forms and their structure works, revision of ideas, research techniques, grammar use and editing. For reading development, students read articles and a novel, practice reading strategies and learn how to

summarize articles. This course does not count toward a degree.

307(4307) Advanced Pronunciation and Accent Reduction (3)

Prerequisites: ESL 301(4301), placement or consent of instructor. Designed for non-native speakers who have fluency in speaking English but need to reduce their accent to be better understood and feel confident expressing ideas. Course includes review and practice of the pronunciation of the consonants and vowels in American English; accent reduction, achieved through extensive practice of the stress, rhythm and intonation patterns; speaking skills through presentations.

305(4305) Advanced ESL Grammar (3)

Prerequisites: Minimum TOEFL score of 500. This course is for ESL students who need review and applied practice of English grammar for oral and written work. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

390(4390) Special Readings (1-3)

Prerequisites: Consent of instructor. Independent study through readings, reports and conferences.

400(5400) International Teaching Assistant Seminar (1-3)

Prerequisites: Consent of department. Focus is on presentation skills, strategies to facilitate communication, and cultural differences in education. Students develop effective teaching skills through class presentations. Not applicable to graduate degree program.

French

001(1001) French I (5)

Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002(1002) French II (5)

Prerequisite: French I or equivalent. Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

101(2101) Intermediate French Language and Culture (3)

Prerequisite: French 2 or equivalent. Students will advance their understanding of Francophone cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

110(2110) Modern French Literature in Translation (3)
Prerequisite: Sophomore standing. Reading and discussion of selected works in French literature from modern period, in English translation. No credit toward major in French.

111(2111) Francophone Culture (3)
Prerequisites: French 2 or equivalent and permission of instructor. Analyses and discussions of cultural issues in the French-speaking world through the critical reading of representative texts.

115A, (2115a)115B(2115b), 115C(2115c) Intensive French (15)
Prerequisites: Aptitude test and permission of department. An intensive study of French. 115a(2115a), 115b(2115b), 115c(2115c) are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Sciences.

150(2150) European Literature in Translation: Special Topics (3)
Major figures, works, or movements in the literature of Europe and their relevance to our own age. The department announces topic in advance. Does not count toward major in French.

160(2160) French Phonetics (3)
Prerequisite: French 101(2101) or consent of instructor. An analytic and practical study of French pronunciation. Emphasis is placed upon the articulation and practice of contemporary French sounds.

170(2170) Composition and Conversation (3), [C, H]
Prerequisite: French 101(2101) or equivalent. Emphasis will be placed on the development of speaking and writing skills in French.

180(2180) Readings in French (3), [C, H]
Prerequisite: French 170(2170) or equivalent. Development of language skills through reading and discussion of literary texts.

190(2190) Special Readings in French (1-3)
Prerequisites: French 101(2101) and consent of the department. Independent study on mutually acceptable topics through readings, reports, and conferences.

200(3200) Advanced Grammar (3)
Prerequisite: French 170(2170) or equivalent. Problems in grammatical analysis.

205(3205) Commercial French (3)
Prerequisite: French 170(2170) or equivalent. Introduction to French business language with emphasis on technical vocabulary and correct French usage in business affairs.

211(3211) Contemporary French Culture (3)
Prerequisite: French 180(2180) and 200(3200) or equivalent. Aspects of contemporary French culture, studied through a variety of authentic cultural materials and readings of fiction and nonfiction. All readings and class work are in French.

271(3271) Intermediate French Conversation (3)
Prerequisites: French 170(2170) or consent of department. Emphasis will be placed upon the further development of oral skills in French.

280(3280) French Literature I: Middle Ages to Eighteenth Century (3)
Prerequisite: French 180(2180) and 200(3200) or equivalent. Designed to acquaint the student with the development of French literature from the Middle Ages to the eighteenth century. Critical reading of representative texts.

281(3281) French Literature II: Nineteenth and Twentieth Centuries (3)
Prerequisite: French 180(2180) and 200(3200) or equivalent. Designed to acquaint the student with the development of French literature from the nineteenth century to the present. Critical reading of representative texts.

290(3290) Special Readings (1-3)
Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300(4300) Syntax and Stylistics (3)
Prerequisite: French 200(3200) or equivalent. Advanced theoretical and practical study of modern French syntax. Analysis of French prose style.

311(4311) Special Topics in French Culture (3)
Prerequisite: Junior standing or French 280(3280) or 281(3281) for French majors. Selected topics in French culture. May be taught in English or French. If taught in English, French majors will do course assignments in French. This course may be repeated for credit.

331(4331) Medieval and Renaissance Literature (3)
Prerequisite: French 280(3280) or 281(3281). A study of the development of French literature from the Middle Ages to the end of the sixteenth century. Texts for reading and discussion will include medieval romances, lyric poetry, and works of humanist philosophy.

341(4341) Seventeenth-Century French Theater and Poetry (3)
Prerequisite: French 280(3280) or 281(3281). Critical reading and analysis of French Classical Age theater and poetry, including works by Corneille, Moliere, Racine, and La Fontaine.

342(4342) Seventeenth-Century French Prose (3)

Prerequisite: French 280(3280) or 281(3281). A study of moralists and social commentators in the age of Louis XIV, with critical reading and analysis of texts by Pascal, La Rochefoucauld, and others.

353(4353) Eighteenth-Century French Literature (3)

Prerequisite: French 280(3280) or 281(3281). The philosophic movement. Selected readings of the eighteenth century, including Montesquieu, Voltaire, Diderot, and Rousseau.

354(4354) Eighteenth-Century French Theater and Novel (3)

Prerequisite: French 280(3280) or 281(3281). Critical reading and discussion of representative novels and plays of the eighteenth century.

362(4362) Nineteenth-Century French Novel (3)

Prerequisite: French 280(3280) or 281(3281). Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism.

365(4365) Modern French Poetry (3)

Prerequisite: French 280(3280) or 281(3281). A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets.

371(4371) Twentieth-Century French Novel (3)

Prerequisite: French 280(3280) or 281(3281). A study of selected works by the principal novelists of the modern period.

375(4375) Modern French Theater (3)

Prerequisite: French 280(3280) or 281(3281). A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists.

390(4390) Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399(4399) French Seminar (3)

Prerequisite: French 280(3280) or 281(3281). Specialized topic in French literature. Subject to be announced by instructor in charge of seminar.

400(5400) Contemporary French Thought (3)

Prerequisite: B.A. or permission of instructor. Analyses and discussion of contemporary cultural French issues through a representative sample of journals and pamphlets. In French.

German

001(1001) German I (5)

Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the

fundamentals of grammar and syntax. One-hour language laboratory per week required.

002(1002) German II (5)

Prerequisite: German I or equivalent. Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

101(2101) Intermediate German Language and Culture (3)

Prerequisite: German 2 or equivalent. Students will advance their understanding of German-speaking cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

110(2110) Masterpieces of German Literature in Translation (3)

Prerequisite: Sophomore standing. Representative readings in German literature from the beginning to the present. Emphasis to be placed upon German literature in the general context of European culture. No credit toward minor in German.

115A(2115a), 115B(2115b), 115C(2115c) Intensive German (15)

Prerequisites: Aptitude test and permission of department. An intensive study of German assuming no previous knowledge of German. 115a(2115a), 115b(2115b), 115c(2115c) are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

150(2150) European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic announced in advance by the department. Does not count toward major in German.

170(2170) Composition and Conversation (3) [C, H]

Prerequisite: German 101(2101) or equivalent. Emphasis will be placed on the development of speaking and writing skills in German.

180(2180) Readings in German (3) [C, H]

Prerequisite: German 170(2170) or equivalent. May be taken concurrently. Further development of language skills through readings and discussions of literary texts.

190(2190) Special Readings (1-3)

Prerequisites: German 101(2101) and consent of department. Independent study on mutually acceptable topics through readings, reports, and conferences.

201(3201) Masterpieces of German Literature (3)

Prerequisite: Two years of college German or equivalent. Introduction to German literature. Readings and critical analysis of selected works of German literature.

202(3202) The German Novelle and Drama (3)

Prerequisite: German 201(3201) or equivalent. Reading and critical analysis of selected German Novellen and dramas.

208(3208) Intermediate Composition and Conversation (3)

Prerequisite: German 170(2170) or equivalent. Emphasis on speaking and writing German.

210(3210) German Culture and Civilization (3)

Prerequisite: German 180(2180) or equivalent. A survey of the development of German culture and civilization. All reading and class work in German.

290(3290) Special Readings: German (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

308(4308) Advanced Composition and Conversation (3)

Prerequisite: German 208(3208) or equivalent. Continuation of German 208(3208). Designed to develop accuracy and fluency of expression in German.

311(4311) Special Topics in German Culture (3)

Prerequisites: At least one 200-level German course and/or consent of instructor. Discussion of selected topics of German current events. This course may be repeated for credit.

315(4315) German Classicism and Romanticism (3)

Prerequisites: German 201(3201) and one other 200-level course in German. Representative writers from the classical and romantic periods of German literature, including works by Lessing, Goethe, Kleist, and E.T.A. Hoffmann.

320(4320) German Realism and Naturalism (3)

Prerequisites: German 201(3201) and one other 200-level course in German. Representative writers of realism and naturalism in German literature, including works of Grillparzer, Hebbel, Stifter, Keller, and Hauptmann.

345(4345) Modern German Literature (3)

Prerequisites: German 201(3201) and one other 200-level course in German. Representative works from modern German literature.

390(4390) Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

397(4397) Survey of German Literature Part I (3)

Prerequisite: German 201(3201) or 202(3202). Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

398(4398) Survey of German Literature Part II (3)

Prerequisite: German 201(3201) or 202(3202). Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

399(4399) German Seminar (3)

Prerequisite: German 201(3201) or 202(3202). Specialized topic in German literature.

Ancient Greek**001(1001) Ancient Greek 1 (5)**

Study of grammar, syntax, and vocabulary, accompanied by readings of simple prose selections.

002(1002) Ancient Greek 2 (5)

Prerequisite: Ancient Greek 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Greek 1. Readings and discussion from selected classical authors.

101(2101) Intermediate Ancient Greek Language and Culture (3)

Prerequisite: Ancient Greek 2 or equivalent. Students will advance their understanding of ancient Greek culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

151(2151) Greek and Latin in English Today (3)

(Same as Latin 151(2151).) Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

190(2190) Special Readings (1-3)

Prerequisites: Greek 101(2101) and consent of department. Independent study through readings, reports, and conferences.

Modern Greek**001(1001) Modern Greek 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.

002(1002) Modern Greek II (5)

Prerequisite: Modern Greek 001(1001) or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.

101(2101) Intermediate Modern Greek Language and Culture (3)

Prerequisite: Modern Greek 002(1002) or equivalent. Students will advance their understanding of Modern Greek culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

150(2150) Modern Greek Literature in Translation (3)

This course is an exploration of significant works by major Modern Greek authors, dealing with relevant issues of Western literary traditions. Authors include Cavafy, Kazantzakis, Seferis, Solomos, Elytis.

190(2190) Special Readings (1-3)

Prerequisite: Modern Greek 101(2101) or consent of the department. Independent study through readings, reports, and conferences.

Italian

001(1001) Italian I (5)

Fundamentals of Italian grammar, pronunciation, and diction for students with no previous acquaintance with the language. One-hour laboratory per week required.

002(1002) Italian II (5)

Prerequisite: Italian I or equivalent. Continuation of grammar and conversation with introductory readings centering on Italian contributions to art, literature, and music. One-hour laboratory per week required.

101(2101) Intermediate Italian Language and Culture (3)

Prerequisite: Italian 2 or equivalent. Students will advance their understanding of Italian culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

190(2190) Special Readings (1-3)

Prerequisite: Italian 101(2101) or equivalent. Readings on literary topics mutually acceptable to student and instructor.

Japanese

001(1001) Japanese I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese and upon the acquisition of the fundamentals of grammar and syntax.

002(1002) Japanese II (5)

Prerequisite: Japanese I or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese. Continuation of the acquisition of the fundamentals of grammar and syntax.

101(2101) Intermediate Japanese I (5)

Prerequisite: Japanese II(1002) or equivalent. Students will advance their understanding of Japanese culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

102(2102) Intermediate Japanese II (5)

Prerequisite: Japanese 101(2101) or equivalent. Continuation of Japanese 101(2101).

190(2190) Special Readings (1-3)

Prerequisite: Japanese 102(2102) or consent of the department. Independent study through readings, reports, and conferences.

290(3290) Special Readings (1-3)

Prerequisites: Japanese 190(2190) or consent of instructor. Independent study through readings, reports and conferences.

Latin

001(1001) Latin 1 (5)

A study of Latin grammar, syntax, and vocabulary, accompanied by reading selections from literary texts.

002(1002) Latin 2 (5)

Prerequisite: Latin 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Latin 1. Readings and discussion from selected classical authors.

101(2101) Intermediate Latin Language and Culture (3)

Prerequisite: Latin 2 or equivalent. Students will advance their understanding of Roman culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

151(2151) Greek and Latin in English Today (3)

(Same as Ancient Greek 151(2151). Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin, and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

190(2190) Special Readings (1-3)

Prerequisites: Latin 101(2101) and consent of department. Independent study through readings, reports, and conferences.

Spanish**001(1001) Spanish I (5)**

Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002(1002) Spanish II (5)

Prerequisite: Spanish I or equivalent. Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

101(2101) Intermediate Spanish Language and Culture (3)

Prerequisite: Spanish 2 or equivalent. Students will advance their understanding of Hispanic cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

105(2105) Commercial Spanish (3)

Prerequisite: Spanish 2 or equivalent. Grammar review and cultivation of language skills with emphasis on technical vocabulary and correct Spanish usage in business affairs. Designed for business majors, economics majors, or anyone interested in the commercial application of Spanish. This course is the equivalent of Spanish 101(2101) and may not be taken for credit.

110(2110) Spanish Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spain from the Middle Ages to the contemporary period. Reading and discussion of works of representative Spanish writers: Cervantes, Calderon, Galdos, Unamuno, Garcia Lorca, Buero Vallejo, and others. No credit toward major in Spanish.

115A(2115a), 115B(2115b), 115C(2115c) Intensive Spanish (15)

Prerequisites: Aptitude test and permission of department. An intensive study of Spanish assuming no previous knowledge of Spanish. 115a(2115a), 115b(2115b), 115c(2115c) are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

150(2150) European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. The department announces topic in advance. Does not count toward major in Spanish.

171(2171) Spanish Conversation and Pronunciation (3) [C, H]

Prerequisite: Spanish 101(2101) or equivalent. Emphasis will be placed upon the development of oral skills in Spanish and upon the problems of Spanish pronunciation and intonation.

172(2172) Spanish Composition (3), [C, H]

Prerequisite: Spanish 101(2101) or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

180(2180) Readings in Spanish (3) [C, H]

Prerequisite: Spanish 101(2101) or equivalent. Development of language skills through reading and discussion of a variety of texts.

190(2190) Special Readings (1-3)

Prerequisites: Spanish 101(2101) and consent of department. Independent study through readings, reports, and conferences.

200(3200) Syntax of the Spanish Language (3)

Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. Study of the syntactical and morphological characteristics of the Spanish language. Designed primarily for students majoring in Spanish. May be taken concurrently with any 200-level course.

210(3210) Hispanic Culture and Civilization: Spain (3)

Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. The development of Spanish peninsular civilization from its Roman beginnings to the present.

211(3211) Hispanic Culture and Civilization: Spanish America (3)

Prerequisite: Spanish 171(2171), 172(2172), or 180(2180) (2 of the 3 courses) equivalent. The development of the cultures and civilization of the Spanish-speaking nations of the Western hemisphere.

271(3271) Advanced Spanish Conversation (3)

Prerequisite: Spanish 171(2171) or consent of department. Emphasis will be placed upon the further development of oral skills in Spanish.

280 (3280) Introduction to Hispanic Literature: Spain (3)

Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. Study of selected texts of Spanish writers from the Middle Ages to the present and

the historical, cultural, and political factors, which influence their writing. Required of Spanish majors. Spanish 180(2180) is recommended for prerequisite.

281(3281) Introduction to Hispanic Literature: Spanish America (3)

Prerequisite: Spanish 171(2171), 172(2172), 180(2180) (2 of the 3 courses) or equivalent. Study of selected texts of Spanish-American writers from the colonial period to the present and the historical, cultural, and political factors, which influenced their writings. Required of all Spanish majors. Spanish 180(2180) is recommended for prerequisite.

290(3290) Special Readings: Spanish (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300(4300) Advanced Spanish Grammar (3)

Prerequisite: Spanish 200(3200) or equivalent. Advanced theoretical and practical study of the form and syntax of the Spanish language, focusing especially on sentence structure. Analysis of texts, which illustrate different linguistic levels and their values. Designed to develop accuracy and fluency of expression in Spanish.

310(4310) Spanish Literature From 1898 to 1939 (3)

Prerequisite: Spanish 280(3280). A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists.

311(4311) Special Topics in Hispanic Culture (3)

Prerequisite: Junior standing or Spanish 280(3280) or 281(3281). Selected topics in Hispanic culture taught in Spanish. This course may be repeated for credit provided that the topic is different each time.

315(4315) Spanish Literature From 1939 to the Present (3)

Prerequisite: Spanish 280(3280). A study of cultural and literary development since the Spanish Civil War. Emphasis on leading novelists and dramatists.

320(4320) Realism and Naturalism in the Nineteenth-Century Spanish Novel (3)

Prerequisite: Spanish 280(3280). A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading novelists of the epoch (Galdos, Clarin, Pardo-Bazan, Blasco-Ibanez).

321(4321) Poetry and Drama of the Nineteenth Century (3)

Prerequisite: Spanish 280(3280). A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading poets (Espronceda, Becquer) and playwrights (Zorrilla, Duque de Rivas).

325(4325) Poetry and Drama of the Golden Age (3)

Prerequisite: Spanish 280(3280). Selected readings from the drama of Lope de Vega, Tirso de Molina, Ruiz de 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.

326(4326) Applied Linguistics in Spanish (3)

Prerequisites: Spanish 200(3200) or equivalent. Study of the general principles of linguistics applied to the learning and teaching of Spanish with special emphasis on historical linguistics. The course will focus on the development of the Spanish language with emphasis on etymological and phonological changes. Recommended for prospective teachers of Spanish.

327(4327) Spanish Dialectology (3)

Prerequisites: Spanish 200(3200) or equivalent. The course will focus on the syntactical, lexical and phonological variations of modern Spanish from a sociolinguistics perspective. Regional variations may include Castilian, Mexican, and Caribbean Spanish, Spanish of the northern Andes region and the Southern Cone, and the Spanish spoken in the United States.

330(4330) Cervantes (3)

Prerequisite: Spanish 280(3280). A study of Don Quixote in relation to the author's life and with the cultural background of the Spanish Golden Age. Independent readings on other works of Cervantes.

331(4331) Picaresque and Satirical Prose (1550-1650) (3)

Prerequisite: Spanish 280(3280). A study of Renaissance and Baroque prose in its social context. All readings and discussions are in Spanish.

335(4335) Masterpieces of Spanish Medieval and Renaissance Literature (3)

Prerequisite: Spanish 280(3280). Designed to acquaint students with the cultural background of medieval and Renaissance Spanish traditions. Critical reading and discussion of representative works of these periods: Poema del Cid, El Conde Lucanor, Libro de Buen Amor, El Romancero, La Celestina, the Picaresque novel, and Don Quixote.

340(4340) Spanish-American Literature of the Nineteenth Century (3)

Prerequisite: Spanish 281(3281). A study of the culture and literature of Spanish America in the nineteenth century with emphasis on the leading novelists and essayists of the epoch.

341(4341) Modernismo (3)

Prerequisite: Spanish 281(3281). The genesis, development, and influence of this literary movement in Spanish-American letters with emphasis on Modernista poetry and prose.

345(4345) Spanish-American Literature of the Twentieth Century (3)

Prerequisite: Spanish 281(3281). A study of the leading Spanish American poets, essayists, and novelists of this period as interpreters of contemporary man's dilemma and the Apathos--and Aethos--of their culture.

351(4351) Spanish-American Fiction in the Twentieth Century (3)

Prerequisite: Spanish 281(3281). The role of prose fiction in Spanish American literary and cultural history from World War I to the present.

360(4360) Spanish American Poetry From Modernismo to the Present (3)

Prerequisite: Spanish 281(3281). A study of poetry and its role in the literary and cultural history of Spanish-American society from Modernismo to the present.

390(4390) Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399(4399) Seminar on Hispanic Literature (3)

Required of major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar.

400(5400) Spanish as Spoken Today (3)

Prerequisite: A.B. or permission of instructor. Contemporary Spanish, including emphasis on standard and colloquial speech: slang, proverbs, and the mass media. Some attention will be given to the influence of English on twentieth-century spoken Spanish. Study of samples; oral practice.

Department of History

Faculty

Louis Gerteis, Professor, Chairperson*
Ph.D., University of Wisconsin
Richard H. Mitchell, Curators' Professor*
Ph.D., University of Wisconsin
Jay Rounds, E. Desmond Lee Professor of Museum
Studies and Community History*
Ph.D., University of California, Los Angeles
Carlos A. Schwantes, Saint Louis Mercantile Library
Professor of Transportation Studies*
Ph.D., University of Michigan
Mark A. Burkholder, Professor*
Dean of College of Arts and Sciences
Ph.D., Duke University
Jerry M. Cooper, Professor Emeritus*
Ph.D., University of Wisconsin
Walter Ehrlich, Professor Emeritus*
Ph.D., Washington University
Paul Corby Finney, Professor Emeritus*
Ph.D., Harvard University
John R. Gillingham, Professor*
Ph.D., University of California; Berkeley
Steven C. Hause, Thomas Jefferson Professor*
Ph.D., Washington University
Andrew J. Hurley, Professor*
Ph.D., Harvard University
Charles P. Korr, Professor*
Ph.D., University of California; Los Angeles
William S. 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
Ph.D., Saint Louis University
Robert M. Bliss, Associate Professor* and Dean, Pierre
Laclede Honors College
Ph.D., University of Wisconsin
J. Frederick Fausz, Associate Professor*
Ph.D., William and Mary
Winston Hsieh, Associate Professor*
Ph.D., Harvard University
Adele Patton Jr., Associate Professor*
Ph.D., University of Wisconsin
Gerda W. Ray, Associate Professor*
Ph.D., University of California, Berkeley
John A. Works Jr., Associate Professor Emeritus*,
Ph.D., University of Wisconsin
Priscilla Dowden, Assistant Professor*
Ph.D., Indiana-Bloomington
Laura Westhoff, Assistant Professor*
Ph.D., Washington University
Kevin J. Fernlund, Assistant Professor
Ph.D. University of New Mexico

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
M.A., UM-Columbia
Michelle Rutledge, Adjunct Professor
M.A., UM-Columbia
Peter Acsay, Adjunct Assistant Professor
Ph.D., Saint Louis University
*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The department offers work in Asian, African, European, Latin American, Middle Eastern, and United States history from ancient to modern times. At the bachelor's level, the department offers the B.A. in history, and, in cooperation with the College of Education, the B.A. in history with teacher certification and the B.S. in education with an emphasis in social studies.

At the graduate level, the department offers an M.A. in history with work in European, Latin American, East Asian, Middle Eastern, African, African-American, and United States history. The department also offers the option of an M.A. in history with a concentration in museum studies.

Departmental Honors

Students majoring in history may be awarded departmental honors upon graduation if they have achieved the following: a) at least a 3.2 overall GPA; b) at least a 3.5 GPA for all hours attempted in history courses; and c) an outstanding research paper in the Senior Seminar as certified by the faculty member responsible for directing it.

Undergraduate Studies

General Education Requirements

History majors must meet the university and college general education requirements. History courses that will satisfy the university's state requirement are:

History 3(1001), American Civilization
History 4(1002), American Civilization
History 6(1003), African-American History
History 7(1004), The History of Women in the United States

History 207(2007), The History of Missouri
History 302(3002), United States History: Revolution and the New Nation, 1763 to 1815

History 311(3041), Topics in American Constitutional History

Students may take any language that fulfills the college's foreign language requirement. Majors may not take required history courses on a satisfactory/unsatisfactory

basis. Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

Degree Requirements

Bachelor of Arts in History Students are encouraged to take programs which combine breadth of coverage with intensity. Two of the following are required:

Courses 1 to 199.

History 3(1001), American Civilization to 1865
History 4(1002), American Civilization 1865 to present
History 6(1003), African-American History
History 7(1004), The History of Women in the United States

Plus two of the following:

History 30(1030), The Ancient World
History 31(1031), Topics in European Civilization: The Emergence of Western Europe to 1715
History 32(1032), Topics in European Civilization: 1715 to the Present

Plus:

Non-Euro/American survey: One 3-hour course

Courses 201 to 399:

One course in United States history
One course in European history
One course in Non-Euro-American history
History 390(4001), Special Readings (one credit hour)
History 393(4004), Senior Seminar

Three additional 200 or 300 level courses

Other

Majors must complete at least 39, but not more than 45, hours in history with no grade below C in major. Courses 255 and 256 do not count toward major. After fulfilling the general education and specific major degree requirements, students are to take the remaining 30 hours required to complete the B.A. or B.S. degrees from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following are or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics and astronomy/geology, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. Undergraduate majors must complete a minimum of 15 hours of 300(3000) level History courses including History 390(4001) (1 credit hour) and History 393(4004) (5 credit hours) in residence.

Minor in History

Students may minor in history by taking 18 hours of history courses as follows:

- 1) **One** course numbered 1-199 in each of the following areas: United States history, European history, and Non-Euro-American history
- 2) **One** course numbered 201-399, except 255 and 256 in each of the following areas: United States history, European history, and Non-Euro-American history

No course in which a grade below a C is received shall count toward a minor.

Related Areas

Since history is a broad discipline, it can be combined with serious work in any other discipline. Courses in the humanities, social sciences, languages, and the natural sciences may complement the history program. Students should consult with faculty advisers to select courses suited to their individual interests.

Bachelor of Arts with Teacher Certification For information, refer to the College of Education section in this *Bulletin*.

Bachelor of Science in Education: Emphasis in Social Studies The history requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this *Bulletin*.

Graduate Studies

Degree Requirements

The Department of History offers two options for graduate study, the Master of Arts in History and the Master of Arts in History with Concentration in Museum Studies. These options are described below in separate sections.

Master of Arts in History

The Department of History offers students two ways of completing the master of arts degree: one path of study emphasizes depth of knowledge and research competence acquired through writing a substantial master's thesis; the second emphasizes breadth of historical knowledge acquired through graduate course work and the writing of research papers. Both paths include a core of substantive courses in history (see Core) to which the student adds either a thesis (see Thesis) or additional research papers and seminars (see Research Papers).

The M.A. program offers all students intermediate training preparatory to doctoral programs, advanced training leading to teaching and other careers, and disciplined advanced work.

The department offers study in European history, United States history, East Asian history, Latin American history, African history, and Middle Eastern history. Within these areas of study, students may specialize in the following fields:

Europe to 1715
Europe since 1715
Latin America
United States to 1865
United States since 1865
China and Japan since 1800
Africa and the Middle East
Africa and African American

Admission Requirements

Applicants must meet several departmental admission requirements in addition to the general criteria of the Graduate School. The applicant's undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, only students with a 3.2 grade point average in their undergraduate major are admitted; most successful applicants have higher grades.

Applicants must submit three letters of recommendation, preferably from former teachers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Applicants for graduate teaching assistantships must take the GRE Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, and the sample of written work.

Core

All candidates for the M.A. degree in history must complete a core of 26 hours of course work (excluding thesis credit), with no more than nine hours of history and related fields at the 300 level (except History 393(4004). This 26-hour core must include seven courses at 3 credit hours each (21 hours in all), and one 5-credit-hour writing seminar consisting of a 2-credit-hour research paper supplement to a 3-credit-hour, 400 level history readings course.

To earn the 26-hour core, candidates select three fields of study, the first with a minimum of four courses (each at 3 credit hours or more), the second and third with a minimum of two courses each (at 3 credit hours or more). Each field must include at least one 400-level course.

In addition to this core, each candidate must select one of the two following degree options:

1) Thesis Option--32 hours total

In addition to the core, the candidate choosing this option must enroll for 6 hours of thesis credit and submit an acceptable thesis. The thesis is based on original research in primary sources. Normally, theses do not exceed 100

pages of text. Candidates receive a grade for the thesis upon its approval by an advisory committee. The committee consists of professors selected by the candidate after consultation with the major professor. One member of the committee must be outside the candidate's general area of study, and one may be outside the history department.

The advisory committee conducts an oral examination on the thesis during the candidate's last semester of residence.

The committee decides whether the candidate shall pass, fail, or fail with the option to repeat the oral examination at a later date. Students may not take the oral examination more than twice. The second examination must be held no less than one and no more than two semesters following the date of the first examination. Summer session may be counted as a semester under this procedure, but students should be aware of the difficulties involved in assembling faculty committees during the summer.

Thesis candidates must demonstrate competence in one foreign language or in quantitative methods as applied to historical study. Candidates shall demonstrate foreign language competence by translating, with the use of a dictionary, 500 words in one hour. A member of the history faculty will conduct this examination. That faculty member will choose the test for translation. Candidates shall demonstrate quantitative methods competence by satisfactory completion of either Psychological Statistics 201(2201) or Sociological Statistics 220(3220), or their equivalent.

2) Research Paper Option-36 hours total

To complete this option, the candidate must complete two 5-credit-hour seminars (each consisting of a 400 level reading seminar plus 2 credit hours of supplementary work on a substantial research paper), in addition to the core. The candidate may choose a fourth field in addition to the three already represented in the core to complete this option.

Master of Arts in History (Museum Studies) and Graduate Certificate in Museum Studies

These options are intended for students planning to pursue professional careers in museums. In addition to the core requirement of substantive courses in history, the Museum Studies program includes intensive training in the theory and practice of museology. This innovative program is a collaboration between the Department of History, Department of Anthropology, and Department of Art and Art History, and the Missouri Historical Society. It is taught by a combination of professors and practicing professionals from St. Louis-area museums. Recognizing that the museums field is in a period of rapid change, the program is designed to train students for leadership in the emergence of a new paradigm of museology that focuses on relationships between museums and the people and communities that they serve.

For most students this will be a terminal master of arts degree, fully preparing graduates for immediate entry into museum careers in a variety of positions. While the core requirement focuses on history studies, the museological training is applicable to employment in any type of museum.

Admission Requirements

Applicants wishing to enter the Museum Studies concentration must apply specifically for that concentration; successful application for the general M.A. program in history does not automatically provide access to the museum studies program. Applications for the museum studies concentration will be accepted only for the fall semester. Because of the prescribed sequence of course work, no midyear entry into the program will be allowed.

In addition to the general criteria of the Graduate School, applicants for the Museum Studies concentration must meet several additional criteria of the Department of History and the museum studies program. Applicants' undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, the history department admits only students with a 3.2 grade point average in their undergraduate major; most successful applicants have higher grades. Applicants must submit three letters of recommendation, preferably from former teachers and/or employers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Besides these departmental requirements, applicants must submit the Museum Studies Supplemental Application. The supplemental application includes a statement of intent for pursuit of a museum career.

The departmental Graduate Committee and the director of the museum studies program will base their admissions decisions upon the undergraduate transcript, the letters of recommendation, the sample of written work, and the GRE scores as evidence of ability to meet the academic demands of the training program, and the supplemental application as evidence of the will and ability to pursue a successful career in museums.

Applications for the museum studies program must be received by the university no later than March 1.

Museum Studies Curriculum—39 hours total

All candidates for the M. A. in History with a Concentration in Museum Studies must complete History 434(6134), 435(6135), 436(6136), and 437(6137). (These courses are cross listed under the same numbers in the Anthropology Department and the Art and Art History Department. Students may enroll through the department of their choice.) All candidates must also complete Art and Art History 488(5588) (Museum Education and Visitor Research) and Anthropology 439(6139) (Practicum in Exhibit and Program Development). Together, these

courses provide a solid foundation in the theory and history of museology and in practical skills for museum work. As a final requirement, candidates must complete History (or Anthropology or Art and Art History) 438(6138). This exit project will be the capstone demonstration of competence in museum studies. The specific nature of this demonstration will be customized to the interests and career aspirations of each student. It may take the form of a traditional thesis, an exhibit project, or some other appropriate form, as approved in advance by the candidate's advisory committee.

In addition to these requirements, all candidates must complete 15 hours of elective history course work, with no more than 6 hours of history at the 300 level (except History 393(4004). Museum Studies students will take courses distributed in any proportion between the fields of "United States to 1865" and "United States Since 1865." Exceptions to this requirement (e.g., selections of courses from another field, such as European or African history) must be approved in advance by both the director of the Museum Studies Program and the graduate coordinator of the History Department.

Graduate Certificate in Museum Studies (19 hours)

A very limited number of slots may be available for students who wish to pursue only the Graduate Certificate in Museum Studies without seeking the M.A. in History. In most cases, these will be students who already hold an advanced degree and are currently working (or planning to work) in a museum but who have had no formal training in museum studies. Candidates for the Graduate Certificate must complete History 435(6135), 436(6136), 437(6137), and 438(6138), Art and Art History 488(5588), and Anthropology 439(6139). Contact the director of the Museum Studies Program for availability of slots in this option and for special application procedures.

Career Outlook for B. A. and M. A. graduates

An important rationale for the discipline of history is its centrality to the university curriculum and to the life experience. The ability to put events or developments into the context of the past is useful as well as pleasurable. Responses to a questionnaire sent to history graduates have indicated that alumni in a wide variety of fields are as conscious of and appreciative of their training in history as those who have chosen it as a profession. Men and women in business, lawyers, bankers, librarians, and foreign service officers have all found it relevant to their careers. Study and research in history sharpens organizational and writing skills important to success in business and the legal profession. A growing interest in local history has created employment opportunities in museum, archival, and preservation work.

**Career Outlook for M. A. with Concentration in
Museum Studies**

There are more than 8,000 museums in the United States. History museums constitute more than half of that total, and employ approximately one-third of the 150,000 paid staff working in U. S. museums. While job requirements vary widely among individual museums and specific professional roles, the M.A. degree offered by this program qualifies graduates for a wide range of career opportunities, in history museums and in other types of museums as well. The Museum Studies Program provides students with placement assistance and counseling and with access to a wide range of information on career opportunities in the field, and program faculty use their extensive networks in the field to help identify opportunities and to place students.

Course Descriptions

Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(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 3(1001), 4(1002), 6(1003), 7(1004), 30(1030), 31(1031), 32(1032), 61(1041), 62(1042), 71(1051), 72(1052), 81(1061)82(1062), 83(1063), 84(1064) 201(3032), 203(3042), 205(2800), 207(2007), 208(2008), 210(3051), 211(3062), 212(3052), 219(2219), 242(3091), 245(3322), 300(3000), 301(3001), 302(3002), 303(3003), 304(3004), 305(3005), 306(3006), 311(3041), 312(3012), 313(3044), 314(3045), 315(3031), 316(3021), 317(3022), 318(3053), 319(3050), 320(3043), 321(3071), 323(3072), 324(3073), 332(3081), 335(3082), 336(3083), 337(3084), 341(3085), 342(3086), 348(3092), 349(3093), 351(3094), 352(3095), 361(3101), 362(3102), 371(3201), 372(3202), 380(3301), 381(3302), 385(3303), 386(3304), 390(4001), 393(4004).

The following courses fulfill the Cultural Diversity [CD] requirement; 61(1041), 62(1042), 71(1051), 72(1052), 81(1061), 82(1062), 83(1063), 84(1064), 201(3032), 262(3103), 361(3101), 362(3102), 371(3201), 372(3202), 380(3301), 381(3302), 385(3303), 386(3304).

The following courses fulfill the state [ST] requirement: 3(1001), 4(1002), 6(1003), 7(1004).

3(1001) American Civilization (3) [ST,SS,C]

Evolution of the cultural tradition of the Americas from the earliest times to the mid-nineteenth century, with emphasis on the relationship of ideas and institutions to the historical background.

4(1002) American Civilization (3) [ST,C,SS]

Continuation of History 3(1001) to the present. Course fulfills the state requirement. History 3 (1001) or History 4 (1002) may be taken separately.

6(1003) African-American History (3) [ST,V,SS,CD]

A survey of African-American history from the beginning of the European slave trade to the modern Civil Rights era.

7(1004) The History of Women in the United States (3) [ST,C,SS]

A survey of women's history from the colonial era to the present.

30(1030) The Ancient World (3) [C,SS]

Survey of ancient history in the near east, the Aegean, the central and western Mediterranean. Themes: politics and economy, war and society, culture, including art, literature, technology, religion and philosophy. The chronological span is from the neolithic period (7500-3000 B.C.) in the

near east to the fall of the Roman Empire in the fifth century A.D.

31(1031) Topics in European Civilization: Emergence of Western Europe to 1715 (3) [C,SS]

Lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

32(1032) Topics in European Civilization: 1715 to the Present (3) [C,SS]

Lectures and discussions on the development of Western European society and tradition from 1715 to the present. Either History 31(1031) or History 32(1032) may be taken separately.

61(1041) East Asian Civilization (3) [CS,SS]

The development of Asian civilization from earliest times to the Manchu conquest.

62(1042) East Asian Civilization (3) [CS,SS]

Continuation of History 61 with emphasis on the Asian response to the Western incursion. Either History 61(1041) or History 62(1042) may be taken separately.

71(1051) Latin American Civilization (3) [CD,C,CS]

A survey of selected topics important in the development of Latin America from pre-Columbian times to the twentieth century.

72(1052) Mexican Civilization (3) [C,SS,CD]

This course will focus on the history and culture of Mexico from the Aztecs to the mid-twentieth century. Among the topics to be covered are: the Aztecs, Cortez and the Conquest of Mexico, colonial institutions and culture, the obtaining of political independence, disorder and dictatorship in the nineteenth century, the Mexican Revolution, contemporary Mexico.

81(1061) African Civilization to 1800 (3) [C,SS,CD]

Introduction to African cultural history from the emergence of early man to the abolition of the Atlantic slave trade.

82(1062) African Civilization Since 1800 (3) [C,SS,CD]

Survey of African initiative and response in the period spanning the loss and reassertion of independence. History 81(1061) or History 82(1062) may be taken separately.

83(1063) The African Diaspora to 1800 (3) [C,SS,CD]
An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic, Mediterranean, and Indian Ocean areas from the earliest times to 1800. The course will survey the political, social, and religious foundations of the African continent and include a comparative analysis of other diasporas. Special attention will be given to themes and issues associated with: slavery, creolization, multiracialism, transformation from heterogeneous crowds to new homogeneous communities, and cultural linkages between Africans and their descendants in the Atlantic Communities.

84(1064) The African Diaspora Since 1800 (3) [C,SS,CD]
An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic world from 1800 to contemporary times. The course will include a comparative analysis of other diaspora groups. Special attention will be given to themes and issues associated with: slavery, multiracialism, cultural clocks, the social transformation from heterogeneous crowds to the formation of new homogeneous communities, the new elite, and the modern cultural linkages between Africans and their descendants in the Atlantic Communities.

150(2300) The People's Century, Part I (3)
The course provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their firsthand experiences.

200(2000) Selected Topics in History (1-3)
Prerequisites: Consent of instructor. May be repeated for credit with consent of instructor.

201(3032) History of Women in Comparative Cultures (3) [CD]
Prerequisite: Junior standing or consent of the instructor.
An introduction to the historical development of women's status in a variety of cultures and periods within the areas of Africa, Europe, the Far East, Latin America, and the Middle East. The course analyzes women's political, economic, familial, and sexual roles and the economic, demographic, ideological, and political forces which promoted change and continuity in those roles.

203(3042) U.S. Social Movements in the 20th Century
Prerequisite: Junior standing or the consent of instructor.
This course challenges students to analyze the historical sources, objectives, and techniques of social movements initiated by racial minorities, women, gays and lesbians, evangelical Christians, and many others.

205(2800) History of American Economic Development (3) [MI]
Prerequisites: Econ 40(1000) or 51(1001) or consent of instructor. (Same as Econ 205(2800)). Uses economic concepts to explain historical developments in the American economy, beginning with hunter-gatherers who crossed the Bering land bridge around 12,000 B.C. Main topics include Native American economies, European exploration and conquest, the colonial economies, indentured servitude, the American Revolution, the U.S. Constitution, westward expansion, transportation, the Industrial Revolution, state banking and free banking, slavery, the Civil War, post-bellum agriculture, the rise of big business and antitrust, banking panics, the Federal Reserve Act, the First and Second World Wars, the New Deal, and the growth of government in postwar economy.

207(2007) History of Missouri (3) [ST]
Prerequisite: Junior standing or the consent of the instructor. Lecture and readings. Seventeenth-century Spanish and French explorations and interaction with the Indians; settlement and organization of the Louisiana territory; lead mining and the fur trade; the Louisiana Purchase; the Missouri territory; the struggle for statehood and slavery; antebellum politics; banking and internal improvement; westward expansion; Civil War and reconstruction; postwar agrarian politics, industrialization; Irish, German, and southern European immigration; the Progressive reforms--political and economic change; and twentieth-century social changes and political developments.

208(2008) The History of St. Louis (3)
Prerequisite: Junior standing or consent of the instructor.
This course will provide an overview of the history of the St. Louis metropolitan region from its founding in 1764 to the present. Main topics will include the St. Louis region before the Europeans, forces leading to the founding of the city, St. Louis as an "urban frontier," the Age of Steam on water and rail, the questions of slavery and the Civil War, St. Louis in the Gilded Age, the World's Fair, early efforts at city planning, impact of the automobile, St. Louis during the Depression and World War II, post war suburbanization, urban renewal St. Louis-style, school desegregation, the Schoemehl years, the emergence of St. Louis "Edge Cities," and St. Louis 2004.

210(3051) African-American History: From Slavery to Civil Rights (3)
Prerequisite: Consent of the instructor. This course examines the impact of region, gender, and class on black activism by focusing on topics such as remembering slavery and emancipation, institution and community building during segregation, changing strategies in politics and protest, and the emergence of the direct action civil rights movement.

211(3062) Sport and Society (3)

Prerequisite: Junior standing or the consent of the instructor. This course looks at sport in Western society as a form of social history. The first section of the course covers from early Olympic games through the end of the eighteenth century. The major part of the course deals with the role of organized sport in Europe and the United States since 1840, the political and economic aspects of sports, and the growth of international sports.

212(3052) African-American History: From Civil Rights to Black Power (3)

Prerequisite: Consent of instructor. A seminar on the activities, ideas, movement centers, and personalities that created the Civil Rights and Black Power movements in the U.S. from the 1950s through the 1970s. Some familiarity with the broad contours of U.S. history is presupposed. Special attention will be devoted to the roles of the African-American masses, college students, and women, and to the points of conflict cooperation, and intersection between African-America and the larger American society.

219(2219) U.S. Labor History (3)

Examines the history of work and the working class in the United States. It focuses on the transformation of the workplace, the evolution of working class consciousness, the development of the labor movement, the role of race, gender and ethnicity in uniting or dividing the working class, and the nature of labor's relations with other social groups in the political arena. Particular emphasis on the political, and economic conditions and strategies of periods when working class power was growing.

242(3091) European Social History Since 1715

Prerequisite: Junior standing or the consent of the instructor. This is a survey course examining the life of ordinary people in modern Europe. It begins with an examination of economic conditions and the social classes that derive from them. Most of the course explores the conditions of every day life. Topics include demography, marriage and the family, sexuality, children and old age, the roles of women, disease and death, diet, drink and drugs, clothing and housing, leisure and entertainment, and popular attitudes.

245(3322) Advanced History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)

Prerequisites: At least 3 biology courses beyond the introductory level or permission of instructor. Topics include principles of 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 Biology 362(3322), History 245(3322), and Biology 462(5322).

255(4011) Curriculum and Methods of Teaching Secondary School History and Social Studies (3)

(Same as Sec Ed 255(3255).) Prerequisite: Junior standing and Sec Ed 213(3213). A study of the scope and sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is directed also toward learning the techniques and research tools of the scholar in the fields of history and social studies. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence.

256(4012) Social Studies Teaching Intern Seminar (1)

(Same as Sec Ed 256(3256).) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of educational philosophy, social studies curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, Sec Ed 290(3290).

257(4013) United States History for the Secondary Classroom (3)

(Same as Sec Ed 257(3257).) Adapts the themes and subject matter of American history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification.

258(4014) World History for the Secondary School Classroom (3)

(Same as Secondary Education 258(3258).) Adapts the themes and subject matter of World history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for the Social Studies Certification.

262(3103) Modern History of the Pacific Rim [CD]
Prerequisite: Junior standing or the consent of the instructor. A survey course on the 20th-century history of the most rapid growth of a broad economic region in East and Southeast Asia as well as their interactions with America. For students who need to understand the political and economic dynamics of the countries around the Pacific Basin and the historical roots of various problems.

300(3000) Selected Topics in History (3)
Prerequisite: Junior standing or consent of instructor.
Special topics in history. The course may be repeated for credit with the consent of the instructor.

301(3001) United States History: Colonial America to 1763 (3)
Prerequisite: Junior standing or consent of instructor.
English background of colonization; rise of distinctive New England and Southern societies; English colonial policy to the Peace of Paris.

302(3002) United States History: Revolution and the New Nation, 1763 to 1815 (3) [ST]
Prerequisite: Junior standing or consent of the instructor.
The American Revolution and the creation of the new nation. The young republic and the development of the first American party system.

303(3003) United States History: Nationalism and Sectionalism, 1815 to 1860 (3)
Prerequisite: Junior standing or consent of the instructor.
The Era of Good Feelings, the Age of Jackson, manifest destiny, the political and social developments of the antebellum period relating to the growth of sectionalism and the developing antislavery crusade.

304(3004) United States History: 1860-1900 (3)
Prerequisite: Junior standing or consent of the instructor.
The Civil War, Reconstruction, industrial and urban expansion and their impact on American life.

305(3005) United States History: 1900-1940 (3)
Prerequisite: Junior standing or consent of the instructor.
The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations.

306(3006) United States History: 1940 to the Present (3)
Prerequisite: Junior standing or consent of instructor. The economic, political, and social developments and crises of postindustrial United States. The role of foreign affairs in American life.

310(3011) The American West: Gateways and Corridors (3)
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.

311(3041) Topics in American Constitutional History (3) [ST]
Prerequisite: Junior standing or consent of instructor.
Origins and development of principal institutions and ideas of American constitutional system; role of Constitution and Supreme Court in growth of the nation; important Supreme Court decisions; great American jurists and their impact on the law; historical background to current constitutional issues.

312(3012) The Indian in American History, 1600-1900 (3)
Prerequisite: Junior standing or the consent of instructor.
Investigates Native American encounters with non-Indian peoples between 1600 and 1900, analyzing how traditional Indian cultures changed to meet a variety of new challenges introduced to North America by Europeans and Africans. The approach will be interdisciplinary and ethnohistorical with emphasis placed on case studies of important native nations at key turning points in their history.

313(3044) American Military History to 1900 (3)
Prerequisite: Junior standing or consent of instructor. A study of American military institutions from colonial times to 1900. The impact of the military upon major aspects of American life. The place of war in American history to 1900.

314(3045) American Foreign and Military Affairs, 1900-Present (3)
Prerequisite: Junior standing or consent of instructor. A survey of American foreign and military affairs since 1900, with particular emphasis on the major wars during the period and the Cold War Era. Consideration of the nation's changing place in a changing world.

315(3031) History of Women in the United States (3)
Prerequisite: Junior standing or consent of the instructor.
Development of women's economic, political, and social role in the United States with special emphasis on the nineteenth and twentieth centuries; women and work; women and the family; women and reform movements; women and education; feminist theorists and activists; images of women.

316(3021) U.S. Urban History (3)
Prerequisite: Junior standing or consent of the instructor.
The physical and spatial growth of U.S. cities from colonial times to the present with special attention to the impact of industrialization, public policy, and advances in transportation technology.

317(3022) Comparative Urban History (3)

Prerequisite: Junior standing or consent of the instructor. Reviews and analyzes the development of cities from a North American perspective focusing on the 19th and 20th centuries. Attention will be given to the issue of why North American cities appear and function differently from urban areas on other continents, including Europe, Asia, and South America.

318(3053) African-American Women's History (3)

Prerequisite: Junior standing or consent of the instructor. This course introduces some of the themes of African-American women's history. By examining the impact of region, gender, and class on African-American women's experiences across time, the course highlights black women's applied and theoretical contributions to feminist politics and activism as well as the black struggle for freedom and equality. Topics covered include: slavery and emancipation, institution and community building, the family and work, electoral politics and direct action protest, civil rights, and contemporary issues.

319(3050) Topics in African-American History (3)

Prerequisite: Junior standing or consent of instructor. Will explore a salient topic in African-American history. Such historical documents as personal narratives, letters, government documents, and autobiographies as well as monographs, articles, and other secondary sources will be used to explore topics such as slavery and slave culture in the United States; blacks and America's wars; the African-American intellectual tradition; or, African-Americans and the Great Migration.

320(3043) History of Crime and Justice (3)

Prerequisite: Junior standing or consent of the instructor. (Same as CCJ 330(3043). The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison and the juvenile court.

321(3071) Medieval England (3)

Prerequisite: Junior standing or consent of the instructor. A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of the institutional, social, and legal evolution of the realm of England. English development will be viewed in its European context.

323(3072) York and Tudor England (3)

Prerequisite: Junior standing or consent of instructor. The turmoil over the monarchy and consolidation of the Tudor dynasty. A study of the English Reformation and the political and economic changes of the sixteenth century.

324(3073) Stuart England (3)

Prerequisite: Junior standing or consent of instructor. A study of the English revolutions, religious controversy, and the rise of parliamentary power; the social and economic

changes of the century; and the role played by England in the European struggles of the period.

332(3081) Rome: The Republic and Empire (3)

Prerequisite: Junior standing or consent of the instructor. A survey of the development of Roman political and cultural life from the legendary founding of the city in central Italy in 753 to the death of the Emperor Justinian in 565 A.D.

335(3082) History of the Church: The Middle Ages (3)

Prerequisite: Junior standing or consent of the instructor. A topical study of the Christian church in Europe as an autonomous and central institution from the sixth century through the reformation crisis. Special attention will be given to the relations between the church and the secular world, and the contributions of medieval Christianity to the development of European institutions and ideas.

336(3083) Europe in Early Middle Ages (3)

Prerequisite: Junior standing or consent of the instructor. The end of the Roman Empire as a universal entity; the successor states of the Mediterranean and Northern Europe; the emergence of a Western Christendom under the Franks; the development of feudal states; the Gregorian reforms; the Crusades; the revival of education and learning in the twelfth century.

337(3084) Europe in the High and Late Middle Ages (3)

Prerequisite: Junior standing or consent of the instructor. Medieval society at its political, economic, and intellectual zenith; the crisis of the later Middle Ages; the papal schism and the development of national particular churches within Catholicism; and the rise of estate institutions.

341(3085) The Age of the Renaissance (3)

Prerequisite: Junior standing or consent of the instructor. The Italian and Northern Renaissance as a distinct age: political, socioeconomic, intellectual, religious, and artistic movements attending the decline of medieval society; and the transition to the early modern period.

342(3086) The Age of Reformation (3)

Prerequisite: Junior standing or consent of the instructor. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

348(3092) Europe 1900-1950: War and Upheaval (3)

Prerequisite: Junior standing or consent of the instructor. The impact of World Wars I and II and the search for equilibrium.

349(3093) Europe, 1950-Present: Peace and Prosperity(3)

Prerequisite: Junior standing or consent of instructor. A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.

351(3094) Contemporary France: Since 1870 (3)

Prerequisite: Junior standing or consent of instructor. The history of Republican France. Topics discussed include the creation of a liberal-democratic government; the scandals and crises of the Third Republic; the Dreyfus affair; the rise of imperialism, socialism, and feminism; the impact of World War I, the popular front, defeat, collaboration, and resistance during World War II; and the reestablishment of France as an important power.

352(3095) Germany in the Modern Age (3)

Prerequisite: Junior standing or consent of instructor. The course deals with whether or not the Third Reich should be considered the culmination of German history. Problems of national unification, economic development, representational government, and cultural modernism will be considered.

361(3101) Modern Japan: 1850 to Present (3) [CD]

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern Japan.

362(3102) Modern China: 1800 to Present (3) [CD]

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern China.

371(3201) History of Latin America: To 1808 (3) [CD]

Prerequisite: Junior standing or consent of instructor. Latin America from the pre-Columbian civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies.

372(3202) History of Latin America: Since 1808 (3) [CD]

Prerequisite: Junior standing or consent of instructor. Emphasis on the attainment of political independence and social, political, and economic developments of the nineteenth and twentieth centuries in Latin America.

380(3301) West Africa to 1800 (3) [CD]

Prerequisite: Junior standing or consent of instructor. This course discusses both the history and historiography of Africa's most populous and ethnically diverse region. Beginning with the prehistoric era prior to the desiccation of the Sahara, the course explores climatology and population movement, changes in food production and technology, state formation, the spread of Islam, cultural and political diversity in the forest region, domestic slavery, the Atlantic slave trade and abolition.

381(3302) West Africa Since 1800 (3) [CD]

Prerequisite: Junior standing or consent of instructor. Analysis of change in the savanna/forest societies occasioned by Islamic reform and the end of the slave trade, the imposition of colonial rule and African response, growth of nationalist protest, and post independence development

385(3303) Africa Diaspora to 1800 (3) [CD]

Prerequisite: Junior standing or consent of instructor. Comparative in scope, the course examines major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora up to 1800. Themes include: slavery, multiracialism, economics of the South Atlantic system, political dimensions and the social transformation from heterogeneous crowds to new and homogenous communities. Linkages between Africans and their descendants in the Atlantic communities of Latin America, the Caribbean, as well as North America will be stressed.

386(3304) African Diaspora Since 1800 (3) [CD]

Prerequisite: Junior standing or consent of instructor. Comparative in scope, this course uses a comparative methodology to examine the major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora after 1800.

390(4001) Special Readings (1-10)

Prerequisite: Consent of the instructor. Independent study through readings, reports, and conferences.

392(4002) Collaborative Research (3-6)

Prerequisite: Consent of instructor. Faculty-student collaboration on a research project designed to lead toward publication of a jointly authored article. Faculty member will direct the research.

393(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.

394(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.

400(6101) Readings in American History to 1865 (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history to 1865.

403(6103) Mercantile Library Seminar and Readings in American History (3-5)

Prerequisite: Consent of instructor and advanced graduate standing. Directed readings and writing on selected topics and areas in American history that draw heavily upon resources in the St. Louis Mercantile Library.

405(6102) Readings in American History Since 1865 (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history since 1865.

407(6104) Readings in African-American History (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writings on selected topics and areas in African-American history.

410(6111) Readings in European History to 1715 (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history to 1715.

415(6112) Readings in European History Since 1715 (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history since 1715.

420(6113) Readings in East Asian History (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in East Asian history.

425(6114) Readings in Latin American History (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in Latin American history.

430(6115) Readings in African History (3 or 5) Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in African history.

434(6134) History Curatorship (5) Prerequisite: Graduate standing and consent of instructor. Principles and practices of curatorship in history museums. Historiography and research in material culture; theoretical foundations; methodologies for collecting and curating collections; legal and ethical issues, interpretation, role of the history curator in exhibit and program developments; and responsibilities to the community.

435(6135) Foundations of Museology I (3) Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 435(6035) and Anthropology 435(6135).) Concepts for understanding museums in their social and cultural context; history of museums; museology and general social theory; information transfer vs. meaning-making models; museums and communities;

the changing role of museums; museums as complex organizations; process models of museology.

436(6136) Foundations of Museology II (3)

Prerequisite: History 435(6035) and consent of Director of Museum Studies Program. (Same as Art 436(6036) and Anthropology 436(6136).) Audience-centered approaches to museology; visitor research and learning theory; philosophical and practical considerations in museum planning; the physical design of museums; creativity; exhibit and program development; collections and curation; the challenge of diversity; the future of museums.

437(6137) Effective Action in Museums (3)

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

438(6138) Museum Studies Master's Project (4)

Prerequisite: Consent of Director of Museum Studies Program. (Same as Art 438(6038) and Anthropology 438(6138).) Research and writing/exhibit development on a selected topic.

440(6013) United States History for the Secondary Classroom (3-6)

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of American history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques particularly designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 440(6013) may not be used to meet History degree requirement.

441(6014) World History for the Secondary Classroom (3-6)

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of World history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 441(6014) may not be used to meet History degree requirement.

447(6122) Collaborative Research (3-6)

Prerequisites: Graduate standing and consent of instructor. Faculty-student collaboration on a research project designed to lead toward publication of a jointly authored article. Faculty member will direct the research.

448(6123) Thesis Seminar (2-6)

Prerequisite: Graduate standing and consent of instructor. Thesis research and writing on a selected topic in history.

449(6121) Directed Readings (1-3)

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the graduate level.

450(7001) Doctoral Proseminar in American History to 1865 (3)

Prerequisite: Consent of instructor and advanced graduate standing. Symantec review of the literature and methods of the field.

451(7002) Doctoral Research Seminar in American History to 1865 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

452(7005) Doctoral Proseminar in African-American History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

453(7006) Doctoral Research Seminar in African-American History (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

455(7003) Doctoral Proseminar in American History Since 1865 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

456(7004) Doctoral Research Seminar in American History Since 1865 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

460(7007) Doctoral Proseminar in European History to 1715 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

461(7008) Doctoral Research Seminar in European History to 1715 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

465(7009) Doctoral Proseminar in European History Since 1715 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

466(7010) Doctoral Research Seminar in European History Since 1715 (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

470(7011) Doctoral Proseminar in East Asian History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

471(7012) Doctoral Research Seminar in East Asian History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

475(7013) Doctoral Proseminar in Latin American History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

476(7014) Doctoral Research Seminar in Latin American History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

480(7015) Doctoral Proseminar in African History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

481(7016) Doctoral Research Seminar in African History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

491(7017) Dissertation Research (1-18)

Prerequisite: Completion of the doctoral qualifying examination. Dissertation research and writing on a selected topic in history.

492(7018) Doctoral Presentation Seminar (1-3)

Prerequisite: Previous enrollment in History 491 and consent of department. Discussion and presentation of research in progress for the doctoral dissertation. Normally taken in the final year.

499(7019) Directed Readings for Doctoral Students (1-6)

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the doctoral level.

Department of Mathematics and Computer Science

Faculty

A Prabhakar Rao, Professor*, Chairperson
Ph.D., University of California, Berkeley
Charles Chui, Distinguished Professor*
Ph.D., University of Wisconsin
Raymond Balbes, Professor*,
Ph.D., University of California, Los Angeles
William Connett, Professor*
Ph.D., University of Chicago
Richard Friedlander, Professor*, Associate Chairperson
Ph.D., University of California, Los Angeles
Deborah Tepper Haimo, Professor Emerita*
Ph.D., Harvard University
Wayne L. McDaniel, Professor Emeritus*
Ph.D., Saint Louis University
Alan L. Schwartz, Professor Emeritus*
Ph.D., University of Wisconsin-Madison
Stephen Selesnick, Professor Emeritus*
Ph.D., University of London
Jerrold Siegel, Professor*
Ph.D., Cornell University
Grant V. Welland, Professor*
Ph.D., Purdue University
Sanjiv K. Bhatia, Associate Professor*
Ph.D., University of Nebraska-Lincoln
Haiyan Cai, Associate Professor*
Ph.D., University of Maryland
Ronald Dotzel, Associate Professor*
Ph.D., Rutgers University
Cezary Janikow, Associate Professor*
Ph.D., University of North Carolina at Chapel Hill
Kyungho Oh, Associate Professor*
Ph.D., Purdue University
Jiang Qingtang, Associate Professor
Ph.D., Peking University
Frederick Wilke, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia
Shiying Zhao, Associate Professor*
Ph.D., University of South Carolina
Galina N. Piatnitskaia, Affiliate Associate Professor
Ph.D., Moscow Physical-Technical Institute
Uday K. Chakraborty, Assistant Professor*
Ph.D., Jadavpur University
Wenjie He, Assistant Professor*
Ph.D., University of Georgia
Donald E. Gayou, Affiliate Assistant Professor
Ph.D., Iowa State University
John Antognoli, Senior Lecturer; Coordinator of Evening Program
M.A., University of Missouri-St. Louis
Preetam S. Desai, Lecturer
M.S., University of Missouri-St. Louis
Qiang Sun Dotzel, Lecturer
M.A., University of Missouri-St. Louis

Dorothy Gotway, Lecturer
M.A., University of Kansas-Lawrence
Marlene Gustafson, Senior Lecturer
M.A., Western Reserve University
Mary Kay McKenzie, Senior Lecturer
M.S., Saint Louis University
Shahla Peterman, Senior Lecturer
M.S., University of Wisconsin-Madison
Gillian Raw, Senior Lecturer Emerita
M.A., Washington University
Emily Ross, Senior Lecturer
M.A., Saint Louis University
Paul Schneider, Senior Lecturer
M.A., Saint Louis University
John E. Seiffert IV, Lecturer
M.S., University of Missouri-Rolla
Cynthia Siegel, Senior Lecturer Emerita
M.A., University of Chicago
*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The Department of Mathematics and Computer Science offers work leading to the B.A. in mathematics, the B.S. in applied mathematics, the B.S. in computer science, and in cooperation with the College of Education, the B.S. in secondary education with a major in mathematics. The applied mathematics program has three emphasis areas: statistics, classical applied mathematics, and computational mathematics. The department also offers minors in computer science, mathematics, and statistics.

The program leading to the B.A. in mathematics is flexible, providing a broad introduction to the important branches of mathematics while giving students the depth necessary to pursue graduate study successfully. The B.S. in applied mathematics provides a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. The B.S. in computer science prepares students for employment in modern computing technology and applications of computer science. The B.S. in secondary education introduces students to those branches of mathematics most relevant to teaching secondary-school mathematics.

The Department of Mathematics and Computer Science also offers a master's of arts (M.A.) degree in mathematics, a master of science (M.S.) degree in computer science and a Ph.D. in applied mathematics. Students pursuing the M.A. degree in mathematics may choose an emphasis in either pure or applied mathematics. The pure mathematics emphasis is well-suited for students preparing to teach at the high school, junior college, or four-year liberal arts college level. Those who concentrate on applied courses in the M.A. program build a foundation for the application of mathematics in industry and the continuation of their education in the Ph.D. program in applied mathematics. The M.S. degree in computer science emphasizes practical

aspects of the field. Students may enroll in any of these graduate programs on a part-time basis.

Department Scholarships

The Department of Mathematics and Computer Science offers two scholarships for students who are majoring in mathematics or computer science.

The **Mathematical Sciences Alumni Scholarship** is a monetary award for outstanding undergraduates at the junior or senior level. The **Donald Hankinson Memorial Scholarship** is a monetary award for outstanding students at the sophomore level or higher, including graduate students. Applicants for each of these scholarships must have a grade point average of 3.5 or higher in at least 24 hours of graded course work at the University of Missouri-St. Louis, and show superior achievement in courses in the mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application for both scholarships is March 15, and the scholarships must be used for educational fees or for books at UM-St. Louis starting in the fall semester following the application.

Undergraduate Studies

General Education Requirements

All majors must satisfy the university and appropriate school or college general education requirements. All mathematics courses may be used to meet the university's general education breadth of study requirement in natural sciences and mathematics.

Satisfactory/Unsatisfactory Restrictions

Majors in mathematics and computer science may not take mathematical sciences or related area courses on a satisfactory/unsatisfactory basis. Students considering graduate study should consult with their advisers about taking work on a satisfactory/unsatisfactory basis.

Degree Requirements

All mathematical sciences courses presented to meet the degree requirements must be completed with a grade of C- or better. At least four courses numbered 250 or above must be taken in residence. Students must have a 2.0 grade point average in the mathematical sciences courses completed.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the *Schedule of Classes*. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Note: Courses that are prerequisites for higher-level courses may not be taken for credit or quality points if the higher-level course has been satisfactorily completed.

Bachelor of Arts in Mathematics and Bachelor of Science in Education Majoring in Secondary Education with Emphasis in Mathematics

Candidates for either the B.A. degree or the B.S. in Education are required to complete the following course work:

1) All of the following mathematics courses:

80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
202(2020), Introduction to Differential Equations
245(2450), Elementary Linear Algebra
255(3000), Discrete Structures

2) Probability and Statistics

132(1320), Applied Statistics I

3) Five courses from at least three of the following blocks.

Analysis and Topology

310(4100), Advanced Calculus I
311(4110), Advanced Calculus II
316(4160), Functions of a Complex Variable
380(4800), Introduction to Topology

Algebra

335(4350), Theory of Numbers
340(4400), Introduction to Abstract Algebra I
341(4410), Introduction to Abstract Algebra II
345(4450), Linear Algebra

Applications

303(4030), Applied Mathematics I
306(4060), Applied Differential Equations
320(4200), Mathematical Statistics I
321(4210), Mathematical Statistics II
323(4230), Numerical Analysis I
324(4240), Numerical Analysis II
327(4270), The Calculus of Variations
355(4550), Combinatorics

Geometry and Logic

(B.S. in secondary education majors must complete 366(4660) or 367(4670).
358(4580), Mathematical Logic
362(4620), Projective Geometry
364(4640), Introduction to Differential Geometry
366(4660), Foundations of Geometry

367(4670), Introduction to Non-Euclidean Geometry

One of the following computer science courses is required:

Computer Science 122(1220), Computers and Programming or Computer Science 125(1250), Introduction to Computing

Bachelor of Science in Applied Mathematics

The following course work is required:

1) Mathematics

80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
202(2020), Introduction to Differential Equations
245(2450), Elementary Linear Algebra
255(3000), Discrete Structures
345(4450), Linear Algebra
310(4100), Advanced Calculus I, or
340(4400), Introduction to Abstract Algebra I

2) Probability and Statistics

132(1320), Applied Statistics I

3) All the courses in option a, b, or c:

a) Classical Applied Mathematics Option

The following courses in mathematics are required:

303(4030), Applied Mathematics I
316(4160), Functions of a Complex Variable
320(4200), Mathematical Statistics I
323(4230), Numerical Analysis I

One of the following computer science courses is required:

CS 122(1220), Computers and Programming, or
CS 125(1250), Introduction to Computing

Also required are two additional courses in mathematical sciences, numbered above 250, as well as Physics 111(1011), Physics: Mechanics and Heat, and Physics 112(1012), Physics: Electricity, Magnetism, and Optics.

b) Probability and Statistics Option

The following courses in probability and statistics are required:

232(2320), Applied Statistics II
320(4200), Mathematical Statistics I
321(4210), Mathematical Statistics II
330(4300), Multivariate Analysis
333(4330), Nonparametric Methods in Statistics

Also required are the following computer science courses:

125(1250), Introduction to Computing
225(2250), Programming and Data Structures

Two related courses should be chosen with the approval of the adviser.

c) Computational Mathematics Option

The following courses in mathematics and computer science are required:

125(1220), Introduction to Computing
225(2250), Programming and Data Structures
278(3130), Design and Analysis of Algorithms
323(4230), Numerical Analysis I
324(4240), Numerical Analysis II
355(4550), Combinatorics

Also required are three additional courses numbered above 250(2500), one of which must be in computer science, and two in mathematics.

Bachelor of Science in Computer Science

The following course work is required:

1) Computer Science

125(1250), Introduction to Computing
225(2250), Programming and Data Structures
240(2700), Computer Systems: Architecture and Organization
241(2710), Computer Systems: Programming
255(3000), Discrete Structures
274(2260), Object-Oriented Programming with C++
275(2750), Advanced Programming with Unix
278(3130), Design and Analysis of Algorithms
325(4250), Programming Languages
328(4280), Program Translation Techniques
376(4760), Operating Systems

2) Mathematics and Statistics

80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III
245(2450), Elementary Linear Algebra
132(1320), Applied Statistics I

3) Philosophy 258(4458), Ethics and the Computer

4) Five more elective courses, numbered above 300 if in computer science, and above 200 if in mathematics or statistics. At least three of these elective courses must be in computer science, and at least one must be in mathematics or statistics.

Related Area Requirements

To broaden student understanding of the sources and uses of mathematics, the department requires all candidates for the B.A. in mathematics, B.S. in education, B.S. in applied mathematics, and B.S. in computer science to complete all courses in any two of the groups below with a grade of C- or better.

Restrictions Related area requirements may not be taken on a satisfactory/unsatisfactory (s/u) basis. Students in either the computer science degree program or the statistics or computational mathematics emphasis areas for the applied mathematics degree program may not choose

group 5; students in the classical applied math emphasis area may not choose group 8. Candidates for the B.S. in applied mathematics and the B.S. in computer science who choose group 9 must satisfy group 9 requirements with Physics 221(3221), Mechanics, and Physics 223(3223), Electricity and Magnetism. Students in the computational mathematics emphasis area for the applied mathematics degree are strongly encouraged to choose group 8 as one of their related areas.

Related Area Courses

1) Biology:

220(2102), General Ecology

222(2103), General Ecology Laboratory

2) Biology:

224(2012), Genetics

341(4182), Population Biology

3) Chemistry:

11(1111), Introductory Chemistry

12(1121), Introductory Chemistry II

4) Chemistry:

231(3312), Physical Chemistry I

and another 200-level, or above, chemistry course.

5) Computer Science

225(2250), Programming and Data Structures
and one of either

240(2700), Computer Systems: Architecture and
Organization, or

278(3130), Design and Analysis of Algorithms

6) Economics:

365(4100), Introduction to Econometrics, and one of
either:

366(4100), Applied Econometrics, or

367(4130), Econometric and Time Series Forecasting

7) Philosophy:

160(3360), Formal Logic

280(3380), Philosophy of Science

360(4460), Advanced Formal Logic

8) Physics:

111(2111), Physics: Mechanics and Heat

112(2112), Physics: Electricity, Magnetism, and Optics

9) Physics:

221(3221), Mechanics

and another 200-level, or above, physics course

10) Business Administration:

252(3320), Introduction to Operations Management
PLUS one of

308B(4330), Production and Operations Management -
Logistics

308D(4324), Production and Operations Management -
Service Systems

329(4312), Business Forecasting

330(4326), Quality Assurance in Business

375(4350), Operations Research

11) Engineering:

144(2310), Statics

145(2320), Dynamics

Many students are qualified, as a result of having studied calculus in high school, to begin their major with Math 175(1900), Analytic Geometry and Calculus II, or Math 180(2000), Analytic Geometry and Calculus III. These students are urged to consult with the department before planning their programs. Credit for Mathematics 80(2000), Analytic Geometry and Calculus I, will be granted to those students who complete Mathematics 175(1900) with a grade of C- or better.

Similarly, students who are ready to begin their computer science studies with Computer Science 225(2250), Programming and Data Structures, will be granted credit for Computer Science 125(1250), Introduction to Computing, once they complete Computer Science 225(2250) with a grade of C- or better.

Students preparing for graduate study should take eight or nine mathematics courses at the junior-senior level. The department recommends the following mathematics courses:

310(4100), Advanced Calculus I

316(4160), Functions of a Complex Variable

340(4400), Introduction to Abstract Algebra I

345(4450), Linear Algebra

380(4800), Introduction to Topology

Minor Requirements

The department offers minors in computer science, mathematics, and statistics. All courses presented for any of these minors must be completed with a grade of C- or better.

Minor in Computer Science

The requirements for the minor are:

125(1250), Introduction to Computing

225(2250), Programming and Data Structures

240(2700), Computer Systems: Architecture and
Organization

and two additional courses in Computer Science numbered above 240(2700). At least one of these must be either Computer Science 241(2710), Computer Systems: Programming, or Computer Science 278(3130), Design and Analysis of Algorithms. A minimum of two computer science courses numbered above 240(2700) must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Minor in Mathematics

The requirements for the minor are:

80(1800), Analytic Geometry and Calculus I
175(1900), Analytic Geometry and Calculus II
180(2000), Analytic Geometry and Calculus III

and one additional three-hour mathematics course numbered above 180(2000). A minimum of two mathematics courses numbered 180(2000) or above must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Minor in Statistics

The requirements for the minor are:

132(1320), Applied Statistics I
232(2320), Applied Statistics II
320(4200), Mathematical Statistics I
321(4210), Mathematical Statistics II

A minimum of two statistics courses numbered above 200 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Graduate Studies

The Department of Mathematics and Computer Science offers an M.A. degree in mathematics, Ph.D. degree in applied mathematics, and an M.S. degree in computer science.

Admission

Applicants must meet the general admission requirements of the Graduate School, described elsewhere in this *Bulletin*. Additional admission requirements for specific programs are listed below.

Mathematics Programs

Applicants must have at least a bachelor's degree in mathematics or in a field with significant mathematical content. Examples of such fields include computer science, economics, engineering and physics. An 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 reference and scores from the Graduate Record Examination (GRE) general aptitude test and the subject test in mathematics. Applicants who did not major in mathematics may substitute the subject test in another field.

Computer Science Program

Applicants for the M.S. Degree in Computer Science must have at least a bachelor's degree, preferably in computer science or in a related area. Students with bachelor's degrees outside computer science must demonstrate significant proficiency in computer science, either by taking the GRE subject area examination or by explicitly showing competence in the following areas. (Any area requirement can be satisfied through suitable experience or completed coursework, if approved by the Graduate Director.)

- Programming experience equivalent to at least two semesters, including knowledge of a modern structured language and a modern object-oriented language.
- Elementary data structures.
- Assembly language programming, computer architecture, or computer organization.
- Design and analysis of algorithms
- Basic knowledge of the Unix operating system and program development environment.

Students must also have completed mathematics courses equivalent to the following:

Two semesters of calculus.
Elementary linear algebra.
Discrete mathematical structures.
Elementary probability or statistics

A student missing some of the above requirements may be admitted on restricted status if there is strong supportive evidence in other areas. Special regulations of the Graduate School applying to students while they are on restricted status are described elsewhere in this *Bulletin*.

Preliminary Advisement

Incoming students are assigned advisers with whom they should consult before each registration period to determine an appropriate course of study. If necessary, students may be required to complete undergraduate course work without receiving graduate credit.

Degree Requirements

Master of Arts in Mathematics

Candidates for the M.A. degree must complete 33 hours of course work. All courses numbered below 400 must be completed with grades of at least B. The courses taken must include those listed below in either group A) or group B), together with additional courses discussed in C).

Students who have already completed courses equivalent to those in A) or B) may substitute other courses numbered above 300. All substitutions of courses for those listed in A) or B) require the prior approval of the graduate director.

A) Pure mathematics core:

310(4100), Advanced Calculus
316(4160), Functions of a Complex Variable
340(4400), Introduction to Abstract Algebra I
345(4450), Linear Algebra
380(4800), Introduction to Topology

B) Applied mathematics core:

310(4100), Advanced Calculus
316(4160), Functions of a Complex Variable
320(4200), Mathematical Statistics
323(4330), Numerical Analysis I
345(4450), Linear Algebra

C) M.A. candidates must also complete 18 hours of course work numbered 400 or above, chosen with the prior approval of the graduate director. Courses may be chosen to develop expertise in either pure or applied mathematics.

Thesis Option Part of C) may consist of an M.A. thesis written under the direction of a faculty member in the Department of Mathematics and Computer Science. A thesis is not, however, required for this degree. A student who wishes to write a thesis should enroll in 6 hours of Math 490(6900), M.A. Thesis. Students writing an M.A. thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

M.A. degree students may have several of the courses in B) as part of their undergraduate record. Those who anticipate enrolling in the Ph.D. program are advised to use the opportunity to replace courses in B) they have had at the undergraduate level with courses such as

311(4110), Advanced Calculus II
380(4800), Introduction to Topology and if possible
331(4310), Analysis of Variance and Design of Experiments
340(4400), Introduction to Abstract Algebra I
364(4640), Introduction to Differential Geometry

Doctor of Philosophy in Applied Mathematics

The requirements for the Ph.D. degree include the following:

- Course work
- Ph.D. candidacy
- Doctoral dissertation

The requirements are described in detail below.

Course Work

A minimum of 60 hours of courses numbered 300 or above is required, including dissertation work. At least 33 hours must be in courses numbered 400 or above. All courses

numbered below 400 must be completed with a grade of at least B. In addition to course work, all Ph.D. students are required to attend and participate in applied mathematics seminars.

Distribution Requirement

Among the courses presented for the degree there must be six courses from the following list such that at least three areas are represented and at least two courses are chosen from each of two of these areas:

I. Analysis and Applied Mathematics

402(5020), Classical Applied Mathematics
403(5700), Topics in Applied Mathematics
410(5100), Theory of Functions of a Real Variable
416(5160), Functions of a Complex Variable
418(5710), Topics in Analysis
430(5300), Partial Differential Equations
470(6700), Functional Analysis

II. Numerical Analysis

423(5720), Topics in Numerical Analysis
427(5270), Numerical Linear Algebra

III. Optimization and Operations Research

435(5350), Operations Research - Deterministic Models
436(5360), Operations Research - Stochastic Models
437(5370), Quality Management
460(5040), Calculus of Variations

IV. Computational Mathematics

404(5600), Topics in Computation
405(5050), Computational Curves and Surfaces
406(5060), Computational Harmonic Analysis
407(6070), Time-Frequency Analysis
408(6080), Advances in Wavelet Analysis

V. Probability and Statistics

420(6200), Probability Theory
428(6600), Topics in Probability Theory
432(5320), Applied Statistics

2. Advancement to Ph.D. Candidacy

Advancement to Ph.D. candidacy is a four-step process consisting of:

- A) Completing distribution requirement.
- B) Passing the comprehensive examinations.
- C) Selecting a Ph.D. committee and preparing a dissertation proposal.
- D) Defending the dissertation proposal.

Comprehensive Examinations

Comprehensive examinations are offered in the following areas:

Applied Mathematics
Real Analysis
Complex Analysis
Numerical Analysis

Optimization
Operations Research
Computational Mathematics
Probability
Statistics

The examinations are given on a rotating basis through the academic year; more detailed information on the individual examinations can be found in the *Department of Mathematics and Computer Science Graduate Student Handbook*. Each student must pass four comprehensive examinations. Upon permission by the Graduate Director and the Graduate School, a student may take one examination in a field which is not fully represented by any one of the above areas. This exam is created by a panel of three professors in consultation with the Graduate Director. The panel may include one professor from another department if special expertise outside mathematics and computer science is needed. This examination may be administered as an oral exam.

Students must apply to take each examination at least 45 days before the examination is offered. A student may attempt a comprehensive examination over a particular area no more than twice; the second attempt must be within 13 months of the first attempt.

Selection of a Ph.D. Committee and Preparation of a Dissertation Proposal.

The student is required to identify a dissertation adviser and an area of specialization for the dissertation. The area of specialization can be in a discipline complementary to mathematics. Usually, students select an adviser from contacts made through course work or in the seminar series. The adviser and student will then form a Ph. D. committee which may include faculty from other departments at UM-St. Louis. The committee advises the student on course work and research.

Each student must prepare a dissertation proposal. This is a substantial document describing the problem to be worked on and the methods to be used. It should also demonstrate the student's proficiency in written communication. The proposal is to be submitted to the Ph.D. committee for approval.

Dissertation Proposal Defense. If the Ph.D. committee finds the student's dissertation proposal acceptable, a defense is scheduled. This is a public event in which the student demonstrates mastery of the necessary skills to begin research.

3. Dissertation and Dissertation Defense

Each Ph.D. candidate must write a dissertation which is an original contribution to the field on a topic approved by the candidate's Ph.D. Committee and the department, and which meets the standards and requirements set by the Graduate School including the public defense of the dissertation. Students working on a dissertation may enroll in Math 499(7990), Ph.D. Dissertation Research; a

maximum of 9 hours in Math 499(7990) can be used toward the required hours of work in courses numbered 400 or above.

Master of Science in Computer Science

Candidates for the M.S. degree in Computer Science must complete 30 hours of course work, subject to the Graduate School regulations. All courses numbered below 400 must be completed with grades of at least B. Outside computer science, up to 6 hours of related course work is allowed upon permission of the Graduate Director.

Students must receive credit in all areas of the following core requirements. Waiving or substituting for a specific requirement can be done on the basis of prior course work or experience (at the discretion of the Graduate Director), but it will not reduce the total hours required for the degree.

- Operating Systems (CS 376(4760) or CS 476(5760)
- Programming Languages (CS 325(4250))
- Computer Systems (CS 470(5700))
- Software Development (one of CS 450(5500), CS 452(5520), CS 454(5540), or CS 456(5560))
- Advanced Data Structures and Algorithms (CS 413(5130))

Financial Assistance

Any student who intends to apply for financial assistance, in the form of a teaching assistantship or a research assistantship, is required to have three letters of recommendation submitted with the application to the graduate program in Mathematics or Computer Science. The application must include scores on the GRE general aptitude test. Applicants are also encouraged to submit scores in the GRE subject area test in Mathematics or Computer Science. Applications for financial assistance should be submitted before February 15 prior to the academic year in which the student expects to begin graduate study. Notifications of awards are generally made March 15, and students awarded financial assistance are expected to return letters of acceptance by April 15.

Career Outlook

Graduates from the Department of Mathematics and Computer Science have little difficulty in finding positions in industry, government, and education. The demand for individuals well-trained in statistics, computer science, and applied mathematics is greater than the available supply. In addition, a number of graduates in mathematics have elected careers in business and other related fields where they have found their logical and analytical skills to be well-rewarded.

Course Descriptions

Courses in this section are grouped as follows:
Mathematics, Computer Science, and Probability and Statistics.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the *Schedule of Courses*.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary 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:

MATHEMATICS: 20(1020), 30(1030), 35(1035), 50*(1150), 70(1070), 80(1080), 100(1100), 102(1102), 105(1105), 151*(2510), 152**(3520), 175(1900), 180(2000), 202(2020), 245(2450), 255(3000), 303(4030), 306(4060), 310(4100), 311(4110), 316(4160), 323(4230), 324(4240), 327(4270), 335(4350), 340(4400), 341(4410), 345(4450), 350(4500), 355(4550), 358(4580), 362(4620), 364(4640), 366(4660), 367(4670), 380(4800), 389(4890).
COMPUTER SCIENCE: 101(1010), 122(1220), 125(1250), 170(1050), 201(2010), 225(2250), 240(2700), 241(2710), 255(3000), 273(2210), 274(2260), 275(2750), 278(3130), 301(4010), 302(4020), 304(4040), 305(4050), 314(4140), 325(4250), 328(4280), 330(4300), 341(4410), 344(4440), 350(4500), 352(4520), 354(4540), 356(4560), 361(4610), 362(4620), 373(4730), 374(4740), 376(4760), 377(4770), 378(4780), 388(4880), 389(4890).
PROBABILITY AND STATISTICS: 31(1310), 132(1320), 232(2320), 320(4200), 321(4210), 326(4260), 330(4300), 331(4310), 332(4320), 333(4330), 339(4390).

*Mathematics 50(1150) and 151(2510) fulfill this requirement only for students seeking the B.S. in education degree in Early Childhood Education, Elementary Education, and Special Education

**Mathematics 152(3520) fulfills this requirement only for students seeking the B.S. in education degree in middle school mathematics.

Mathematics

20(1020) Contemporary Mathematics (3) [MS]

Prerequisites: A satisfactory ACT Math score or a satisfactory score on the university's mathematics placement examination. Presents methods of problem solving, centering on problems and questions which arise naturally in everyday life. May include aspects of algebra and geometry, the mathematics of finance, probability and statistics, exponential growth, and other topics chosen

from traditional and contemporary mathematics which do not employ the calculus. May be taken to meet the mathematical proficiency requirement, but may not be used as a prerequisite for other mathematics courses. Designed for students who do not plan to take Calculus. Credit will not be granted for Math 20(1020) if credit has been granted for Stat 31(1310), Math 80(1800), 100(1100), 102(1102), or 105(1105). Concurrent enrollment in Math 20(1020) and any of these courses is not permitted.

30(1030) College Algebra (3) [MS]

Prerequisites: A satisfactory ACT Math score or a satisfactory score on the university's mathematics placement examination. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, and solutions to systems of equations.

35(1035) Trigonometry (2) [MS]

Prerequisite: Math 30(1030) or concurrent registration. A study of the trigonometric and inverse trigonometric functions with emphasis on trigonometric identities and equations.

50(1150) Structure of Mathematical Systems I (3)

Prerequisites: 45 hours of college credit and one of the following: Math 30(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. Credit will be granted only toward the B.S. in education degree in Early Childhood Education, Elementary Education, Middle School Education and Special Education.

70(1070) Applied Mathematics of Interest (2)

Prerequisites: Math 30(1030). An introduction to the role of interest in applied mathematics. Topics include simple and compound interest, mathematics of annuities, amortization bonds, sinking funds, and mortgages.

80(1800) Analytic Geometry and Calculus I (5) [MS]

Prerequisites: Math 30(1030) and 35(1035), or a satisfactory ACT Math score along with a satisfactory score on the university's trigonometry examination, or a satisfactory score on both the university's mathematics proficiency examination and the university's trigonometry examination. Introduction to analytic geometry, differential calculus, and integral calculus. Math 80(1800), 175(1900), and 180(2000) form the calculus sequence.

100(1100) Basic Calculus (3) [MS]

Prerequisite: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. Introduction to plane analytic geometry and basic differential and integral calculus with application to various areas. No credit for Mathematics majors. Credit not granted for both Math 80(1800) and 100(1100).

102(1102) Finite Mathematics I (4)

Prerequisite: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's proficiency examination. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes, Markov chains, vectors and matrices, linear programming, and game theory.

105(1105) Basic Probability and Statistics (3) [MS]

Prerequisites: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. An introduction to probability and statistics. Topics include the concept of probability and its properties, descriptive statistics, discrete and continuous random variables, expected value, distribution functions, the central limit theorem, random sampling and sampling distributions. Credit not granted for more than one of Stat 31(1310), Stat 132(1320) and Math 105(1105).

132(1320) Applied Statistics I

Prerequisites: Math 80(1800) or 100(1100). See Statistics 132(1320) in Probability and Statistics section that follows.

151(2510) Structure of Mathematical Systems II (3)

Prerequisite: Math 50(1150). An introduction to probability and statistics. An intuitive study of elementary geometry. Introduction to the deductive theory of geometry and to coordinate geometry. Credit will be granted only toward the B.S. in education degree in Early Childhood Education, Elementary Education, Middle School Education and Special Education.

152(3520) Structure of Mathematical Systems III (3)

Prerequisite: Math 151(2510). Together with Math 50(1150) and 151(2510), this course teaches mathematics necessary for middle school mathematics certification. Topics from Math 50(1150) and 151(2510) are continued. Other topics include geometric constructions, similarity, coordinate geometry, normal distribution, combinatorics, and trigonometry. Credit granted only toward B.S. in Education degree in Early Childhood Education, Elementary Education, Special Education, and Middle School Education.

175(1900) Analytic Geometry and Calculus II (5)

Prerequisite: Math 80(1800). Selected topics from plane analytic geometry and calculus.

180(2000) Analytic Geometry and Calculus III (5)

Prerequisite: Math 175(1900). Solid analytic geometry and selected topics in calculus.

202(2020) Introduction to Differential Equations (3)

Prerequisite: Math 180(2000). Topics will be chosen from linear differential equations, equations with constant coefficients, Laplace transforms, power series solutions, systems of ordinary differential equations.

245(2450) Elementary Linear Algebra (3)

Prerequisites: Math 100(1100) or 175(1900). An introduction to linear algebra. Topics will include complex numbers, geometric vectors in two and three dimensions and their linear transformations, the algebra of matrices, determinants, solutions of systems of equations, eigenvalues and eigenvectors.

255(3000) Discrete Structures (3)

Prerequisite: Math 175(1900) or 100(1100), and CS 125(1250) or equivalent. (Same as CS 255(2250) Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than one of CS 255(2250) and Math 255(3000).

303(4030) Applied Mathematics I (3)

Prerequisites: Math 202(2020) and 245(2450). Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

306(4060) Applied Differential Equations (3)

Prerequisite: Math 202(2020) and 245(2450). The study of ordinary differential equations and partial differential equations is continued with applications in such areas as physics engineering and biology.

310(4100) Advanced Calculus I (3)

Prerequisite: CS/Math 255(3000) and 180(2000). Limits, continuity, and differentiability of functions of one and several variables, sequences and series, and the Riemann Stieltjes integral.

311(4110) Advanced Calculus II (3)

Prerequisite: Math 310(4100). Continuation of Math 310(4100).

316(4160) Functions of a Complex Variable (3)

Prerequisite: Math 202(2020) or both CS/Math 255(3000) and Math 180(2000). Complex numbers and their geometrical representation, point sets, analytic functions of a complex variable, complex integration, Taylor and Laurent series, residue theorem, conformal mapping.

320(4200) Mathematical Statistics I (3)

(Same as Statistics 320(420) See Statistics 320(4200) Probability and Statistics section that follows.

321(4210) Mathematical Statistics II (3)

(Same as Statistics 321(4210) See Statistics 321(4210) in Probability and Statistics section that follows.

323(4230) Numerical Analysis I (3)

Prerequisites: Math 202(2020), 245(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.

324(4240) Numerical Analysis II (3)

Prerequisite: Math 323(4230) or consent of instructor. Topics chosen from: the numerical solution of systems of linear equations; the eigenvalue/eigenvector problem; numerical solution of Partial Differential Equations (PDE); numerical solution of stiff Ordinary Differential Equations (ODE); boundary value problems; sparse matrix methods; approximation theory; optimization theory; digital filters; integral equations.

327(4270) The Calculus of Variations (3)

Prerequisites: Math 202 ((2020)and 310(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.

335(4350) Theory of Numbers (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of instructor. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

340(4400) Introduction to Abstract Algebra I (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of the department. Introduction to groups, rings, and fields, with emphasis on groups and rings.

341(4410) Introduction to Abstract Algebra II (3)

Continuation of Math 340(4400) with emphasis on fields.

345(4450) Linear Algebra (3)

Prerequisites: CS/Math 255(3000), Math 180(2000) and Math 245(2450). Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, and quadratic forms.

350(4500) Special Readings (1-10)

Prerequisites: CS/Math 255(3000), Math 180(2000) and consent of instructor.

355(4550) Combinatorics (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000). Advanced counting methods are introduced, including the use of generating functions for the solution of recurrences and difference equations. Additional topics may include: graphs and trees, combinatorial designs, combinatorial games, error-correcting codes, and finite-state machines.

358(4580) Mathematical Logic (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000) or Philosophy 360(4460). A study of the logic of mathematics by the axiomatic method, with a development of the propositional calculus and restricted predicate calculus emphasizing its application to the foundations of mathematics.

362(4620) Projective Geometry (3)

Prerequisites: CS/Math 255(3000), Math 180(2000) and Math 245(2450). Analytic approach to the study of projective spaces. Theorems of Desargues, Pascal, and Brianchon. Projective properties of conics.

364(4640) Introduction to Differential Geometry (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000). Geometry of curves and surfaces in Euclidean three-space. Calculus on a surface. Intrinsic geometry of surfaces

366(4660) Foundations of Geometry (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of department. A development of portions of Euclidean geometry from a selected set of axioms, including a discussion of consistency, independence, categoricity, and completeness of the axioms.

367(4670) Introduction to Non-Euclidean Geometry (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of the department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry.

380(4800) Introduction to Topology (3)

Prerequisite: CS/Math 255(3000) and Math 180(2000) or consent of the department. A study of topological spaces, including the concepts of limit, continuity, connectedness, compactness, etc. Special emphasis placed on, and examples taken from, the space of real numbers.

389(4890) Topics in Mathematics (3)

Prerequisite: Consent of instructor. A seminar on special topics in mathematics to be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

401(5010) Theory of Ordinary Differential Equations (3)

Prerequisite: Math 310(4100). A theoretical treatment of ordinary differential equations including the existence and uniqueness of solutions of differential equations and systems of differential equations. The course treats such topics as systems of linear differential equations, eigenvalue problems, autonomous systems, and boundary value problems.

402(5020) Classical Applied Mathematics (3)

Prerequisites: Math 310(4100), 316(4160), and 345(4450) or consent of instructor. The course gives the derivation of equations of mathematical physics such as Navier-Stokes' equations, Euler's equations, equations of elastic materials, and equations of electrodynamics, using scaling and conservation principles. The course also includes elements of the calculus of variations, the Euler-Lagrange equations and Hamiltonian theory.

403(5700) Topics in Applied Mathematics (3)

Prerequisite: Consent of instructor. The course will cover various advanced topics in applied mathematics, and can be taken more than once for credit. Examples of such topics are: Fast transforms, digital filters, etc.

404(5600) Topics in Computation (3)

Prerequisite: Consent of instructor. The course will cover various advanced topics in computation and can be taken more than once for credit. Examples of such topics are: computer graphics, computer architecture, theories of language, analysis of operating systems, numerical geometry and computer aided design, etc.

405(5050) Computational Curves and Surfaces (3)

Prerequisite: Math 310(4100), 323(4230) and 345(4450), or consent of instructor. Construction of curves and surfaces using subdivision algorithms. Iterative refinement of discrete data in an easily programmable manner. Discussion of issues of convergence, shape control, relation to spline functions with uniform knots, multi resolution analysis, and wavelets.

406 (5060) Computational Harmonic Analysis (3)

Prerequisites: Math 303(4030), Math 310(4100), and Math 345(4450). The course covers the basic of Fourier analysis and wavelet analysis. Topics include Fourier transforms and series, discrete Fourier transform, discrete cosine transform and their fast computational schemes, fast wavelet transform, and the lifting scheme. Additional topics include industrial standards for image compression and several aspects of signal processing.

407(6070) Time-Frequency Analysis (3)

Prerequisites: Math 406(5060). The course covers theoretical and practical aspects of several time-frequency methods. Included are linear transformations such as filtering, Zak, Gabor and wavelet transforms; bilinear transformations include the Winger-Ville distribution and other distributions of Cohen's class. Statistical methods of feature extraction and applications to signal compression are outlined as well.

408(6080) Advances in Wavelet Analysis (3)

Prerequisite: Math 406(5060). The course describes recent developments in several research areas connected with wavelet analysis. Included are frames, wavelet vectors, wavelet packets, wavelets on compact intervals and manifolds, adaptive (nonlinear) methods, and methods of

computational physics. Applications include the sparsification of matrices, denoising and compression of signals.

410(5100) Theory of Functions of a Real Variable (3)

Prerequisites: Math 310(4100) and 380(4800). The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

411(5110) Differentiable Manifolds (3)

Prerequisites: Math 310(4100), 345(4450), and 380(4800). An introduction to smooth manifolds and maps. Topics will include the Implicit Function Theorem, Sard's Theorem, transversality, intersection and degree theory, differential forms and integration on manifolds.

416(5160) Functions of a Complex Variable (3)

Prerequisites: Math 310(4100), 316(4160), and 380(4800). Complex numbers, topology of the complex plane, analytic functions, conformal mappings, Taylor series, Laurent series, complex integration, residues, analytic continuation, representation of analytic functions, elliptic functions, normal families, Riemann theorem, majorization.

418(5710) Topics in Analysis (3)

Prerequisite: Consent of instructor. Topics selected from the areas of Fourier analysis, harmonic analysis, Hilbert spaces, Banach algebras, special functions, generalized functions, partial differential equations. May be taken more than once for credit with consent of department.

420(6200) Probability Theory (3)

Prerequisite: Math 410(5100) (may be taken concurrently). Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, and branching processes.

423(5720) Topics in Numerical Analysis (3)

Prerequisite: Consent of instructor. The course will cover various advanced topics in numerical analysis and can be taken more than once for credit. Examples of such topics are: A.D.I. Techniques for solving p.d.e., finite element techniques, the algebraic eigenvalue problem, the software, etc.

427(5270) Numerical Linear Algebra (3)

Prerequisite: Math 323(4330) and Math 345(4450) or consent of the instructor. The course includes solution of general and special linear systems. Techniques include methods (such as splitting or Krylov subspaces). Additional topics are the eigenvalue problem and the method of least squares.

428(6600) Topics in Probability Theory (3)

Prerequisite: Consent of instructor. The course will cover advanced topics in probability theory and may be taken more than once for credit with the consent of the department

430(5300) Partial Differential Equations (3)

Prerequisites: Math 310(4100), 316(4160), 345(4450), and 380(4800). Classification of partial differential equations; Cauchy, Dirichlet, and Neumann problems; the fundamental solution; existence theorems of potential theory; eigenvalue problems; and Tricomi's problem.

432(5320) Applied Statistics (3)

Prerequisites: Statistics 321(4210) or consent of instructor. The course studies classical and recently developed statistical procedures selected from areas including analysis of variance, multivariate analysis, nonparametric or semiparametric methods and generalized linear models. Emphasis is on application of procedures, including the rationale underlying choice of procedures.

435(5350) Operations Research-Deterministic Models (3)

Prerequisites: Math 345(4450) or equivalent. (Same as MSIS 428(7350).) A study of deterministic methods and models in operations research. This course provides an introduction to operations research and focuses on model building, solution and interpretation of results. Topics include formulation, solution, duality and sensitivity analysis in linear programming, integer programming, network flow models, nonlinear optimization, and dynamic programming.

436(5360) Operations Research-Stochastic Models (3)

Prerequisites: Stat 320(4200) or equivalent. (Same as MSIS 429(7352).) A study of stochastic methods and models in operations research. Provides an introduction to probabilistic models for decision making under uncertainty. Topics include stochastic processes, queuing theory and models, probabilistic inventory theory and models, Markovian decision problems, simulation and reliability.

437(5370) Quality Management (3)

Prerequisite: MSIS 481(5300) or Stat 320(4200) or consent of instructor. (Same as MSIS 430(5326).) An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approaches are discussed. Topical coverage includes the construction and interpretation of control charts, graphical methods, quality function deployment, robust experiments for product design and improvement, mistake-proofing (poke-yoke), the Deming approach, Baldrige award criteria, quality cost audits, worker empowerment and reward systems. Cases involving both business processes and physical processes are used to illustrate successful quality improvement efforts.

439(5810) Topics in Number Theory (3)

Prerequisite: Consent of instructor. Topics selected from elementary, algebraic, analytic, and other branches of number theory. Examples of topics include the distribution of primes, the Riemann Zeta function, averages of

arithmetic functions, the theory of partitions, ideal theory, and representations of integers by quadratic forms.

442(5420) Algebra (3)

Prerequisites: Math 340(4400) and 345(4450). Basic fundamentals of the theory of groups, rings and fields.

444(6440) Lie Groups (3)

Prerequisites: Math 340(4400) and 411(5110). The course provides an introduction to Lie Groups, Lie Algebras, and their representations.

448(5820) Topics in Algebra (3)

Prerequisite: Consent of instructor. Topics selected from the theory of groups, rings, fields, algebras, and other algebraic systems. May be taken more than once for credit with consent of department.

450(5500) Directed Readings (1-6)

Prerequisite: Consent of instructor. Independent readings at an advanced level.

452(5550) Topics in Advanced Mathematics for the Teacher (3)

Prerequisite: Consent of instructor. This course will look at various topics in algebra, analysis, and geometry that will deepen a teacher's understanding of the mathematics of the precollegiate curriculum. It can be taken more than once for credit.

460(5040) Calculus of Variations (3)

Prerequisites: Math 202(2020), 310(4100) and 345(4450). Classical functionals, minimization of functionals, Euler-Lagrange equations, appropriate function spaces, weak solutions, existence of solutions, approximation theory, practical applications and finite element approach to solutions will be covered.

470(6700) Functional Analysis (3)

Prerequisites: Math 345(4450) and 410(5100). Algebraic and topological tools applied to problems in analysis. The topics chosen will usually include topological vector spaces, metric spaces, Banach spaces, Hilbert spaces, and Banach algebras.

488(5800) Topics in Topology (3)

Prerequisite: Consent of instructor. The course will cover topics selected from algebraic or differential topology and may be taken more than once for credit with the consent of the department.

490(6900) Master's Thesis (1-6)

Prerequisite: Consent of instructor. Thesis work under the supervision of a faculty member. The course is designed for those students intending to present a thesis as part of their M.A. program. Students who do not write a thesis cannot apply Math 490(6900) to a degree.

499(7990) Ph.D. Dissertation Research (1-9)

Prerequisites: Completion of comprehensive. May be taken for no more than nine hours.

Computer Science

101(1010) Introduction to Computers and the Internet (3)

Prerequisites: Same as for Math 20(1020) and Math 30(1030). Covers basic concepts and components of a PC, including microprocessor, disk, display, multimedia, printers, scanners, backup; survey of popular applications including e-mail, personal information managers, word processors, spreadsheets; brief discussion of computer languages; networking, terminology, methods for accessing information on remote computers; dialup access to computers including use of modems; overview of the Internet, popular browsers, World Wide Web, search engines, FTP, utilities, Hyper Text Markup Language, tools for Web page construction, security, privacy. Credit not granted for both CS 101(1010) and BA 103(1800).

122(1220) Computers and Programming (3)

Prerequisite: Math 80(1800) or 100(1100), or a grade of at least B in Math 30(1030). An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of the FORTRAN language will be studied including basic data types, subroutines and functions, arrays, and files. Credit not granted for both BA 104(1804) and CS 122(1220).

125(1250) Introduction to Computing (3)

Prerequisite: Math 80(1800) or 100(1100), or a grade of at least B in Math 30(1030). An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of a high level language such as Pascal or C will be studied, including elementary and advanced data types and subprograms. Various features of the UNIX operating system will also be discussed.

170(1050) User Interface Design and Event-Driven Programming with Visual Basic (3)

Prerequisite: Computer Science 125(1250) or knowledge of some programming language and consent of the instructor. This course explores programming in Visual Basic for event-driven applications. Design and implementation of graphical user interfaces (GUI) are explored as primary examples. Additional topics may include DDE, OLE, and interactions with databases.

201(2010) An Introduction to Java and Internet Programming (3)

Prerequisite: Math 30(1030). Introduces the Java programming language and its use in Internet programming. This course will involve programming assignments in Java and their interface with browsers using applets. Students will also be exposed to the Java's

windows toolkit -- the AWT. A brief introduction to object-oriented programming concepts will be provided. Other topics will include threads, virtual machines, byte code, and the Java security model.

225(2250) Programming and Data Structures (3)

Prerequisite: CS 125(1250). A continuation of CS 125(1250). Advanced programming techniques including recursion, divide-and-conquer, and backtracking will be considered. A discussion of dynamic data structures such as lists, binary trees, stacks, queues, and symbol tables will be presented. An introduction to modular programming, program specification and verification, and analysis of algorithms will be given.

240(2700) Computer Systems: Architecture and Organization (3)

Prerequisite: CS 225(2250). Introduces details of computer systems from architectural and organizational points of view. Topics discussed may include data representation, digital logic and basic circuits such as ALU, multiplexers, decoders, flip-flops, registers, RAM and ROM memory, memory hierarchies, I/O devices, pipelining, parallel and RISC architectures, etc.

241(2710) Computer Systems: Programming (3)

Prerequisite: CS 240(2700). Continues introduction of computer systems, with assembly programming and its application. Topics covered may include addressing modes, stack manipulations and applications for reentrant and recursive modules, memory interfacing, I/O device interfacing, and serial and parallel communication.

255(3000) Discrete Structures (3)

Prerequisites: Math 175(1900) or 100(1100), and CS 125(1250) or equivalent. (Same as Math 255(3000)). Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than one of CS 255(3000), Math 250, and Math 255(3000).

273(2210) The C Programming Language (3)

Prerequisite: CS 225(2250) or the equivalent. The C language is introduced together with the associated tools which make up the UNIX C programming environment. The course is project-oriented and a portion of the practical work will involve UNIX systems programming. This course is intended for students who have completed the equivalent of CS 125(1250) and CS 225(2250) but without the C language. It may not be taken for credit if the student has taken CS 225(2250) with C.

274(2260) Object Oriented Programming with C++ (3)
 Prerequisite: CS 225(2250). Introduces object-oriented concepts, terminology, and notation. The C++ language is explored, including topics such as dynamic memory, exception handling, function and class templates, operator overloading, inheritance, polymorphism, and generic programming with the standard template library. Additional topics may include GUI libraries.

275(2750) Advanced Programming with Unix (3)
 Prerequisite: CS 225(2250). Exploration of the Unix operating system, including its tools and utilities for program development, such as makefile, piping and redirection, shell scripts, regular expressions, and symbolic debuggers. In addition, this course explores advanced features of the C programming language, including various file processing, command-line and variable arguments, exception handling and generic interfacing.

278(3130) Design and Analysis of Algorithms (3)
 Prerequisites: CS 225(2250), CS/Math 255(3000), Math 245(2450) and Stat 132(1320). Addresses the design and mathematical analysis of fundamental algorithms in computer science. Algorithms studied may involve search, sorting, data compression, string manipulation, graph traversal and decomposition, and algebraic and numeric manipulation.

301(4010) Web Programming Techniques (3)
 Prerequisites: CS 275(2750). Provides an introduction to Web page development using current technologies such as HTML and XML. Programming in such languages as Perl, CGI scripting, Java script and Java. The current Web servers are compared for issues such as technology, capacity planning, and installation.

302(4020) Java and Internet Programming (3)
 Prerequisites: CS 301(3010). A projects-oriented course using the Java programming language for Internet programming. The course focuses on current technologies in Java such as GUI toolkits, threads, the Java security model, and JavaBeans. Other topics may include sockets, IO Streams, server-side Java, and remote method invocation.

304(4040) Electronic Commerce Protocols (3)
 Prerequisites: CS 275(2750) and Math 245(2450). Provides a technical introduction to electronic commerce over the Internet, examining topics such as electronic data interchange, digital currency, and electronic catalogs. The course discusses technical issues such as telecommunications infrastructure, data warehousing, software agents, and storage retrieval of multimedia information. Other topics may include cryptographic techniques as applicable to web-site development, management of data in a secure manner, authentication and confidentiality, different levels of security (transaction, network, and protocol), and digital signatures.

305(4050) User Interface Development (3)
 Prerequisites: CS 275(2750). Focuses on user interface design standards as a programming problem. It covers topics such as functional vs. aesthetic concerns, elegance and simplicity, interference between competing elements, visual variables, perceptual organization for visual structure, grid-based design of module and program, semiotics with images and representation.

314(4140) Theory of Computation (3)
 Prerequisites: CS 278(3130). Covers finite state machines and pushdown automata, and their relationship to regular and context-free languages. Also covers minimization of automata, Turing machines, and undecidability. Other topics may include Church's Thesis, uncomputability, computational complexity, propositional calculus and predicate calculus.

325(4250) Programming Languages (3)
 Prerequisites: CS 274(4740). A study of the principles of modern programming languages. The students perform a comparative study of syntax, semantics, and pragmatics of high-level programming languages. Also provides a discussion of list-processing, object-oriented, functional, procedural, or other programming paradigms.

328(4280) Program Translation Techniques (3)
 Prerequisites: CS 240(2700), CS 274(2260), CS/Math 255(3000), Math 245(2450). Looks at the theory of programming languages as well as the theory of program translation as a means for dealing with the conceptual gap introduced by the levels of abstraction. Program translation mechanisms are studied as a means to explore the traceoff between language expressiveness, translation, and execution effectiveness. Particular attention is paid to compilers, with emphasis on constraints induced by syntax and semantics.

330(4300) Introduction to Artificial Intelligence (3)
 Prerequisites: CS 274(2260), CS 275(2750) and CS 278(3130). An overview of AI applications is presented. An AI programming language, such as Prolog or Lisp, is introduced. Fundamental AI problem solving techniques are applied to heuristic search and game playing. An introduction to knowledge representation and expert systems is given. Topics such as theorem proving, neural networks, and natural language processing may also be studied.

341(4410) Computer Graphics (3)
 Prerequisites: CS 274(2260), CS 275(2750) and CS 278(3130). The basic architecture of various types of graphics systems is presented. Also presents a detailed description of the basic algorithms for 2-dimensional and 3-dimensional graphics systems. Algorithms for shading, hidden line removal, and rendering in the 3-D systems will be examined. The course involves significant project work.

344(4440) Digital Image Processing (3)

Prerequisites: CS 274(2260), CS 275(2750) and CS 278(3130). Focuses on low-level image processing data structures and algorithms for binary image processing, region and texture analysis, image filtering, edge detection, and contour following. Other topics include coding for storage, retrieval, transmission, and image restoration.

350(4500) Software Engineering (3)

Prerequisites: CS 274(2260) and CS 275(2750). Introduces software engineering as a discipline, discusses stages of software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools.

352(4520) Object-Oriented Analysis and Design (3)

Prerequisites: CS 350(4500). Concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. Discusses the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling with patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool.

354(4540) Software System Architectures (3)

Concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. Covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design supports for distributed and client-server applications, design patterns, package interfaces, notation, persistence, and GUI frameworks.

356(4560) Software Development Processes (3)

Prerequisites: CS 350(4500) or CS 352(4520). This course is an in-depth study of software development processes, in the context of an actual project. Discussion includes object-oriented processes such as Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools.

361(4610) Database Management Systems (3)

Prerequisites: CS 275(2750) and CS 278(3130). Presents the foundations, concepts and principles of database design. Various models of data representation are considered, including the hierarchical and relational models. Also considers some of the implementation issues for database systems.

362(4620) Information Retrieval (3)

Prerequisites: CS 275(2750) and CS 278(3130). Presents deterministic models of information retrieval systems, including conventional Boolean, fuzzy set theory, p-norm, and vector space models. Other topics include probabilistic models, text analysis and automatic indexing, automatic query formulation, system-user adaptation and learning mechanisms, evaluation of retrieval, review of new theories and future directions, and intelligent information retrieval.

373(4730) Computer Networks and Communications (3)

Prerequisite: CS 275(2750) and Statistics 132(1320). Communication systems will be considered in the context of the ISO standard for systems interconnection. Various types of networks will be studied including wide area networks, local area networks, and fiber optic networks.

374(4740) Client-Server Architectures (3)

Prerequisites: CS 275(2750) and Math 245(2450). Studies communications systems in the context of the ISO standard for systems interconnection. There is hands-on exposure to development of client-server applications.

376(4760) Operating Systems (3)

Prerequisites: CS 275(2750), CS 240(2700), Statistics 132(1320) and Math 245(2450). Studies the structure of a generic operating system, considering in detail the algorithms for interprocess communication, process scheduling, resource management, memory management, file systems, and device management. Topics in security may also be examined. Examples from pertinent operating systems are presented throughout, and use of the algorithms in modern operating systems is examined. Substantial practical work, using the UNIX operating system is required.

377(4770) Operating Systems for Telecommunications (3)

Prerequisites: CS 352(4520) or MS/IS 423(6806). The structure of a general operating system will be studied. The various components, including the interface with the underlying hardware, will be considered in detail. UNIX and Windows/NT will be considered as case studies throughout the course. The course will also emphasize hands-on experience as a power user of at least one modern operating system.

378(4780) Systems Administration and Computer Security (3)

Prerequisites: CS 275(2750). Identifies and studies major issues of relevance to systems and networks management. Covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. Discusses the latest advances in network management tools and computer security protocols.

388(4880) Individual Studies (1-3)

Prerequisites: CS 275(2750) and consent of instructor. Allows a student to pursue individual studies under the supervision of a faculty member. May include development of a software project. May be repeated for credit.

389(4890) Topics in Computer Science (3)

Prerequisite: Consent of instructor. A seminar on special topics in computer science to be determined by recent developments in the field and the interests of the instructor. May be repeated for credit with departmental consent.

413(5130) Advanced Data Structures and Algorithms (3)

Prerequisites: An elementary course in analysis of algorithms or consent of the instructor. This course covers analysis of time and space complexity of iterative and recursive algorithms along with performance bounds, design of data structures for efficient performance, sorting algorithms, probabilistic algorithms, divide and conquer strategies, various algorithms on graphs, and NP completeness.

427(5780) Systems Administration (3)

Prerequisite: (CS 376(4760) or 377(4770) and MSIS 496(6836). The course will identify and study major issues of relevance to systems and networks management. It covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. The course will discuss the latest advances in network management tools and computer security protocols.

432(5320) Introduction to Evolutionary Computation (3)

Prerequisite: CS 330(4300), or consent of instructor. This course introduces the concepts of nature-inspired problem solving population dynamics, Darwinian selection, and inheritance. It discusses problems applicable to evolutionary algorithms, overviews the existing models and instances, and analyzes specific instances such as genetic algorithms and genetic programming.

434(5340) Introduction to Machine Learning (3)

Prerequisite: CS 330(4300), or consent of instructor. This course introduces both symbolic and sub-symbolic approaches to machine intelligence. Specific topics covered may include data mining, supervised learning such as decision trees, and approximate methods such as fuzzy reasoning.

436(5360) Expert Systems (3)

Prerequisites: CS 330(4300), or consent of instructor. This course concentrates on issues related to building expert systems mimicking human-level expertise, including knowledge engineering processes leading to the design,

construction, and evaluation of systems, relevant languages, tools, and shells, as well as representation, quality, and inference methods.

438 (5380) Introduction to Neural Networks (3)

Prerequisites: CS 330(4300) or consent of instructor. This course introduces the concepts of connectionism, along with algorithms for simulating neural networks, discussion of alternative networks architectures and training algorithms.

440(5400) Computer Vision (3)

Prerequisites: Graduate standing and consent of instructor. This course introduces computational models of visual perception and their implementation on computer systems. Topics include early visual processing, edge detection, segmentation, intrinsic images, image modeling, representation of visual knowledge, and image understanding.

442(5420) Visual Data Processing (3)

Prerequisites: Graduate standing and consent of instructor. This course introduces low-level concepts and techniques used in image processing, including methods for image capture, transformation, enhancement, restoration, and encoding.

444(5440) Pattern Recognition (3)

Prerequisites: Graduate standing and consent of instructor. This course provides an introduction to statistical decision theory, adaptive classifiers, and supervised and unsupervised learning. Different types of pattern recognition systems are introduced, including transducers, feature extractor, and decision units. Students are exposed to the application of the techniques to optical character recognition, speech processing, and remote sensing.

450(5500) Software Engineering (3)

Prerequisites: Graduate standing and consent of the instructor. This course introduces software engineering as a discipline, discusses stages of the software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external, verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools. Topics are the same as CS 350(4500) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 350(4500) and CS 450(5500).

452(5520) Object Oriented Analysis and Design (3)
Prerequisites: CS 350(4500), CS 450(5500), or consent of the instructor. This course concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. It introduces the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling and patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool. Topics are the same as CS 352(4520) but material is covered at a greater depth and additional projects are required. Credit not granted for both CA 352(4520) and CS 452(5520).

454(5540) Software Systems Architectures (3)
Prerequisites: One of the following: CS 350(4500), CS 450(5500), CS 352(4520), CS 452(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 354(4540) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 354(4540) and CS 454(5540).

456(5560) Software Development Processes (3)
Prerequisites: One of the following: CS 350(4500), CS 450(5500), CS 352(4520), CS 452(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 356(4560) but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 356 (4560) and CS 456(5560).

461(5610) Advanced Databases (3)
Prerequisites: Graduate standing and consent of instructor. This course is an in-depth study of database techniques, including normalization theory, object-oriented databases, statistical databases, distributed databases, and failure recovery. The course will also involve substantial readings from the current literature.

462(5620) Intelligent Information Retrieval (3)
Prerequisites: CS 330(4300) or consent of instructor. This course studies the use of AI techniques for the development of adaptive information retrieval systems. Techniques for analysis of information by statistical syntactical, and logical methods are also studied. Topics related to multimedia information are also discussed.

464(5640) Multimedia Information Systems (3)
Prerequisites: CS 341(4300) or CS 440(5400). This course studies the technical and human issues related to the design, construction, and use of computer programs that combine text, audio, video, graphics, animation, and graphical user interfaces. It also surveys applications and tools.

470(5700) Computer Systems (3)
Prerequisites: Background in computer organization or architecture or consent of instructor. This course focuses on parallel computing architectures, including RISC, pipelining, vector processing, SIMD, MIMD, and array processing. It introduces different memory and I/O subsystems, hardware description languages, and it demonstrates performance enhancement using different architectures studied.

473(5730) Client/Server Computing (3)
Prerequisite: CS 377(4770) or MSIS 496(6836). The course will study communications systems in the context of ISO standards for systems interconnection. There will be hands on exposure to development of client-server applications.

474(5740) Parallel and Distributed Computing (3)
Prerequisites: Background in computer organization or architecture, or consent of instructor. This course introduces the fundamentals of parallel computation and algorithm design. It discusses general techniques for designing efficient parallel algorithms for fixed-connection parallel network architectures such as arrays, trees, and hypercubes.

476(5760) Advanced Operating Systems and Network Management (3)
Prerequisites: CS 376(4760) or consent of instructor. This course provides a survey of contemporary operating systems principles, including overall design strategies for operating systems. The course also discusses communication and synchronization techniques for concurrent processes, and statistical analysis of job scheduling, process scheduling, I/O scheduling, and memory management.

487(5870) Computer Science Seminar (1-3)
Prerequisites: Graduate standing and consent of instructor. This is a seminar on various topics. Substantial student reading and participation is expected. It may be taken more than once for credit with the consent of the department.

488(5880) Computer Science Independent Project (1-3)
Prerequisites: Graduate standing and consent of instructor. This course offers the student an opportunity to work on an adviser-supervised project, individually or in a group. A student may repeat the course for up to 6 credit hours total, but at most 6 hours can be accumulated for CS 488(5880) and CS 490(6900).

489(5890) Topics in Computer Science (1-3)

Prerequisites: Graduate standing and consent of instructor. This course offers various topics not offered on a regular basis. It may be taken more than once for credit with the consent of the department.

490(6900) Thesis (1-6)

Prerequisites: Completion of at least 12 graduate credits and approval of research topic by thesis adviser. This course is designed for those students intending to present a thesis as part of their M.S. program. At most 6 hours can be accumulated for CS 488(5880) and CS 490(6900).

Probability and Statistics**31(1310) Elementary Statistical Methods (3)**

Prerequisite: Math 30(1030), or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency exam. An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course is the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 31(1310), Statistics 132(1320), and Math 105(1105).

132(1320) Applied Statistics I (3)

Prerequisite: Math 80(1800) or 100(1100). An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course is the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 31(1310), Statistics 132(1320), and Math 105(1105).

232(2320) Applied Statistics II (3)

Prerequisite: Statistics 132(1320), or equivalent. Focuses on data analysis using a number of statistical tools. Topics will be chosen from regression, analysis of variance, contingency tables, and various non-parametric techniques. The emphasis is on practical applications. A computer software package such as SAS will be used for the analysis of data.

320(4200) Mathematical Statistics I (3)

(Same as Math 320(4200).) Prerequisites: Statistics 132(1320) and Math 180(2000). Introduction to theory of probability and statistics using concepts and methods of calculus.

321(4210) Mathematical Statistics II (3)

(Same as Math 321.) Prerequisite: Statistics 320(4200). Continuation of Statistics 320(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.

326(4260) Introduction to Stochastic Processes (3)

Prerequisite: Statistics 320(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.

330(4300) Multivariate Analysis (3)

Prerequisites: Math 245(2450) and Statistics 320(4200), or consent of instructor. Multivariate normal distribution and related sampling distributions. Procedures of statistical inference for the multivariate normal distributions, such as hypothesis testing, parameter estimations, multivariate regression, classification and discriminant analysis and principal components analysis.

331(4310) Analysis of Variance and Design of Experiments (3)

Prerequisites: Math 245(2450) and Statistics 320(4200) or consent of instructor. An introduction to the analysis of variance with applications in completely randomized designs, randomized block designs, factorial experiments and split-plot type designs

332(4320) Regression Models in Statistics (3)

Prerequisites: Statistics 232(2320) or consent of instructor. A rigorous course focused on the applications of regression. The course is rigorous in that the basic regression models in one and several variables are carefully developed using matrix notation. Topics such as the extra sums of squares principle, the general linear hypothesis, and partial and sequential F-tests are carefully presented. The course will focus on using these tools to analyze many different data sets.

333(4330) Nonparametric Methods in Statistics (3)

Prerequisite: Statistics 320(4200) or consent of instructor. An introduction to nonparametric statistical procedures. Order statistics, rank order statistics and scores, tests of goodness of fit, linear rank tests for the location and scale problems and applications.

339(4390) Topics in Probability and Statistics (3)

Prerequisite: Consent of instructor. A seminar on special topics in probability and statistics to be determined by the interests of the instructor. May be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

Department of Philosophy

Faculty

Ronald Munson, P
Professor, Chairperson*
Ph.D., Columbia University
Robert M. Gordon, Professor*
Ph.D., Columbia University
Lynn Hankinson Nelson, Professor*
Ph.D., Temple University
Stephanie A. Ross, Professor*
Ph.D., Harvard University
Paul A. Roth, Professor*
Ph.D., University of Chicago
Lawrence H. Davis, Associate Professor*
Ph.D., University of Michigan
Piers Rawling, Associate Professor*
Ph.D., University of California-Berkeley
Jon McGinnis, Assistant Professor*
Ph.D., University of Pennsylvania
Thaddeus Metz, Assistant Professor*
Ph.D., Cornell University
Eric Wiland, Assistant Professor*
Ph.D., University of Chicago
Andrew Black, Affiliate Assistant Professor
Ph.D., University of Massachusetts-Amherst
Buickerood, James G., Affiliate Assistant Professor
Ph.D., Rutgers University
Donald W. Mertz, Affiliate Associate Professor
Ph.D., Saint Louis University
David J. Griesedieck, Senior Lecturer
M.A., Princeton University
*members of Graduate Faculty
Peter Fuss, Professor Emeritus*
Ph.D., Harvard University
John E. Clifford, Associate Professor Emeritus*
Ph.D., University of California-Los Angeles
David A. Conway, Associate Professor Emeritus*
Ph.D., Princeton University
Henry L. Shapiro, Assistant Professor Emeritus*
Ph.D., Columbia University

Philosophy continues to keep alive the tradition begun by Socrates, Plato, and Aristotle of critically examining one's most cherished assumptions. Moreover, it deals with questions that are common to several areas of inquiry, such as art, ethics, the social sciences, the natural sciences, and the various professions. The study of philosophy also encourages logical precision, a heightened awareness of assumptions used in any discussion, and an attitude of both open-mindedness and responsible criticism toward new and unusual ideas. These skills are particularly useful for students planning careers in law, business, computer science, writing, or other fields requiring such disciplines of mind. For these reasons many students have found it useful to combine a major in another field with a major in

philosophy. To accommodate such students, the department has a special program for double majors.

The philosophy faculty has an unusually wide range of research interests. Faculty members have written books and articles addressing not only the classical and traditional concerns of philosophy, but contemporary controversies in the fields of law, psychology, sociology, political theory, biology, medical ethics, theology, logic, and philosophy of history as well. For their research in some of these areas, members have been awarded a number of national research grants, including fellowships from the American Council of Learned Societies and the National Endowment for the Humanities.

In keeping with this emphasis on diversity, the department is represented by scholars trained in widely different approaches to philosophy, such as the analytic tradition, Continental idealism and existentialism, Marxist dialectic, and Asian modes of thought.

General Information

Degrees and Areas of Concentration

The philosophy department offers two options leading to the B.A. degree in philosophy. The first is for students intending to enter graduate school in philosophy, the second is for students seeking a general liberal arts education as their ultimate academic objective, or preparing for professional degrees such as law. Each option offers a balance between training in the techniques of logical analysis, study of philosophical classics, and examination of selected problems in philosophy. The department also offers a minor in philosophy for students wishing to pursue a particular interest in philosophy in an organized way.

Undergraduate Studies

General Education Requirements

Majors must meet the university and college general education requirements. Philosophy 120(1120), Asian Philosophy, and Philosophy 125(1125), Islamic Philosophy, also satisfies the college Cultural Diversity requirement. Majors may not count philosophy courses taken on a satisfactory/unsatisfactory basis toward the degree requirements.

Degree Requirements

Bachelor of Arts in Philosophy

Students must complete one of the following programs. At least 30, but not more than 45, hours are required for a major. A minimum of 18 hours must be taken in residence from the Philosophy Department at UM-St. Louis, including all courses for the major at or above the 200 level.

Option One: The Major in Philosophy: Thirty hours of course work is required:

1) **Philosophy 160(3360), Formal Logic**

2) **History of Philosophy**

12 hours in history of philosophy, at least 6 hours of which must be at the 300-level. Choose from the sequences Philosophy 101-107(3301-3307); Philosophy 301-322(4401-4407) Philosophy 10(1110) and 11(1111) together count as one 100 level history course.

3) **Normative Philosophy**

One course from the following:

Philosophy 330(4430), Social and Political Philosophy

Philosophy 335(4435), Classical Ethical Theories

Philosophy 338(4438), Recent Ethical Theory

Philosophy 274(3374), Philosophy in Art

Philosophy 374(4474), Topics in Aesthetics (Philosophy 374(4474) cannot be used to satisfy both the normative requirement and requirement #5 below--the "other disciplines" requirement.)

4) **Core Requirement**

One course from the following:

Philosophy 340(4440), Theories of Knowledge

Philosophy 345(4445), Metaphysics

5) **Philosophy and Other Disciplines**

One course from the Philosophy 370(4470) – 390(4490) sequence.

6) **Philosophy 391(4491), Senior Seminar**

7) Other than the courses specified above, only courses at the 200-level or above satisfy the course work requirement for the major. Video courses cannot be used to satisfy course requirements for this program.

When appropriate, Philosophy 351(4451): Special Topics in Philosophy, may be used to satisfy the requirement of number 3, 4, or 5.

Students in this program should take Greek, Latin, French, or German to satisfy the foreign language requirement.

Option Two: The double major. Twenty-four hours of course work are required.

1) **Philosophy 160(3360), Formal Logic or Philosophy 60(1160): Logic and Language (Formal Logic is strongly recommended)**

2) **History of Philosophy: six hours in history of philosophy, at least three hours of which must be at the 300(4000) level. Choose from the sequences Philosophy 101-107(3301-3307); Philosophy 301-322(4401-4422). Philosophy 10 and 11(1110 & 1111) together count as one 100-level history course.**

3) A total of nine hours or more at the 300- level other than courses used to satisfy (2) and (4). Video courses cannot be used to satisfy course requirements for this program.

4) **Philosophy 391(4491), Senior Seminar**

Departmental Honors Majors with a 3.2 grade point average or higher in philosophy and overall may, with the department's consent, earn departmental honors by:

1) **Completing at least six hours, but not more than nine, of Philosophy 350(4450), Special Readings in Philosophy.**

2) **Submitting an acceptable thesis before the end of the senior year; and**

3) **Passing an oral examination.**

In such cases, the 30 hours required for the major will include the credit earned in Philosophy 350(4450), Special Readings, for the senior thesis.

Related Area Requirements

Majors are urged to acquire a familiarity with some other field above the introductory level.

Transfer students planning to major in philosophy should consult the student's undergraduate advisor as soon as possible in order to have their transcripts evaluated.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. degree in philosophy from courses, which the appropriate department has evaluated as being of university-level quality, or from one or more of the following areas or their university-quality equivalents at other institutions; anthropology/archeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The Minor

Fifteen hours of course work in philosophy are required.

All course work for the minor except Philosophy 160(3360) must be taken in residence from the Philosophy Department at UM-St. Louis

- **Philosophy 160(3360): Formal Logic.**
- **A total of 12 hours at or above the 200-level, at least six of which must be at the 300-level. Video courses cannot be used to satisfy course requirements for this program.**
- **Minors are strongly encouraged, though not required, to take Philosophy 391(4491): Senior Seminar.**

A GPA of 2.0 or better is required in courses presented for the minor. Prospective minors are encouraged to consult with members of the department for advice in planning an appropriate sequence of courses.

Graduate Studies

2+3 B.A. and M.A. in Philosophy

The Combined B.A./M.A. Program in Philosophy provides an opportunity for students of recognized academic ability and educational maturity to fulfill integrated requirements of undergraduate and master's degree programs in three years from the beginning of their junior year. When all the requirements of the B.A./M.A. program have been completed, students will be awarded both the B.A. and M.A. degrees. With a carefully designed program, a student can earn both degrees within as few as ten semesters.

The Combined Program requires a minimum of 138 credit hours, of which at least 36 must be at the upper division level (course numbers in the 300-499 range). In qualifying for the B.A.; students must meet all university and college requirements, including all the requirements of the regular undergraduate major in Philosophy described above. Students will normally take Philosophy 160(3360): Formal Logic and two courses in the 101-107(3301-3307) History of Philosophy sequence in their junior years, along with electives. (Any courses still needed to satisfy college foreign language and expository writing requirements would also be taken during this year.) Philosophy 391(4491): Senior Seminar and more specialized courses are taken in the senior year. In the fifth year, students take advanced electives and such required courses as are needed to fulfill remaining university, Graduate School, and departmental requirements for the M.A. This includes satisfactory completion of 36 graduate credit hours, at least 18 of which must be in courses numbered above 400 and among which must be at least 3 in each of the four subject areas listed above for the regular M.A. program. Students are also required to earn a passing grade in comprehensive exams in each of two of these areas. (See description below.) Up to 12 graduate credit hours may be applied simultaneously to both the B.A. and M.A. requirements. Also, students may elect to write a thesis, in which case up to 6 of the 36 hours may be taken in Philosophy 495("Thesis Research.")

Students should apply to the Graduate Committee for admission to the Combined B.A./M.A. Program in Philosophy the semester they will complete 60 undergraduate credit hours or as soon thereafter as possible. It is also recommended that students have completed the foreign language requirement and the junior level writing requirement before applying. A cumulative grade point average of 3.0 or higher and three letters of recommendation from faculty are required for consideration.

Students will be admitted to the Combined Program under provisional status until they have completed 15 credit hours in it with a grade point average of 3.0 or higher. After completion of the provisional period, and with the recommendation of the Graduate Committee, students can be granted full admission into the program. Students must maintain a grade point average of 3.0 or higher and throughout the Combined Program. Students who officially withdraw from the Combined Program, who have successfully completed all the requirements for the B.A. degree, will be awarded their B.A. degree.

PHILOSOPHY REQUIREMENTS FOR STUDENTS IN THE 2+3 PROGRAM

A. To be taken in the junior year:

Four courses (12 credit hours)

- 160(3360): Formal Logic
- Two courses in the History of Philosophy, each at the 100-level or above.
- One additional Philosophy course, at the 100-level or above.

B. To be taken in the senior year:

Six courses (18 credit hours)

- 391(4491): Senior Seminar
- Either 345(4445) Metaphysics or 340(4440): Theories of Knowledge.
- Two History courses, each at the upper division
- One course from the sequence 370 to 390(4470-4490)
- One of the following:
330(4430): Social and Political Philosophy
335(4435): Classical Ethical Theory
338(4438): Recent Ethical Theory

C. To be taken in the final year of the program:

Six courses (18 credit hours)

1. At least 5 of these courses must be at or above the 400-level
 2. Courses must be selected so that the student has taken at least one from each of the four subject areas:
 - History of Philosophy
 - Value Theory
 - Logic/Philosophy of Science
 - Epistemology/Metaphysics
- in the course of completing the 2 + 3 program.

D. Graduate Exit Requirements

Each student must pass a comprehensive exam in two of the four subject areas listed in C above.

Master of Arts in Philosophy

To earn an M.A. in philosophy, students must complete at least 36 hours of graduate-level work and pass two comprehensive exams. Entering students must demonstrate a competence in logic, either by having passed the relevant course(s) prior to admission or by passing a departmental

exam. Students may elect to write a thesis, in which case up to 6 of the 36 hours may be devoted to research and writing. Two-thirds (24 credit hours) of the degree program, including the thesis for students taking that option, must be completed in residence at UM-St. Louis. In addition, the courses taken are subject to two distribution requirements:

- At least half of the courses must be at the 400-level.
- At least one course (3 credit hours) must be chosen from each of the following four subject areas: epistemology/metaphysics, history of philosophy, value theory (including aesthetics courses only with departmental approval), and logic/philosophy of science.

Cooperative arrangement with Saint Louis University. The strengths of the UM-St. Louis Philosophy Department are complemented by those of the Saint Louis University Philosophy Department, which has strengths in the history of philosophy as well as in philosophy of religion. To enhance students' opportunities for instruction and expertise, the two departments have worked out a cooperative arrangement that permits graduate philosophy students on each campus to take up to four courses at the partner institution. In any given semester, UM-St. Louis graduate students must take at least half of their courses at their home institution. Students admitted to the M.A. program on a probationary basis must take all their courses at UM-St. Louis during their first semester.

Course Descriptions

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin: 10(1110), 11(1111), 30(1130), 50(1150), 60(1160), 85(1185), 90(1090), 91(1091), 101(3301), 102(3302), 103(3303), 104(3304), 105(3305), 107(3307), 120(1120), 125(1125), 150(2250), 151(2251), 152(2252), 153(2253), 154(2254), 156(2256), 158(2258), 160(3360), 165(3365), 174(2274), 175(2275), 180(2280), 185(3385), 269*(3369), 272(3372), 274(3374), 280(3380), 301(4401), 302(4402), 305(4405), 306(4406), 307(4407), 308(4408), 309(4409), 310(4410), 315(5515), 320(4420), 321(4421), 322, 330(4430), 335(4435), 338(4438), 339(4439), 340(4440), 345(4445), 350(4450), 351(4451), 352(4452), 353(4453), 360(4460), 365(4465), 369(4469), 370(4470), 374(4474), 376(4476), 378(4478), 379(4479), 380(5580), 381(2281), 382(4482), 383(4483), 384(4484), 385(4485), 387(4487), 390(4490), 391(4491).

*These courses fulfill the Cultural Diversity requirement [CD] Phil 120(1120), 125(1125).

10(1110) Western Philosophy I: Antiquity to the Renaissance (3) [V,H]

Lectures and discussions tracing the development of Western philosophy from its beginnings among the pre-Socratics through the Middle Ages and Renaissance. Philosophical ideas will be examined in the cultural and historical context: the Greek city-state, the rise of Christianity, etc.

11(1111) Western Philosophy II: Descartes to the Present (3) [V,H]

Lectures and discussions on the development of Western philosophy from Descartes (1596-1650) to the present. Philosophical ideas will be examined with an eye to their historical and cultural setting: the rise of modern science, the industrial revolution, the rise of capitalism, etc.

30(1130) Approaches to Ethics (3) [V,H]

A study and discussion of representative topics in moral philosophy such as moral skepticism, moral objectivity, theories of obligation and value, evaluation of social institutions, and the relation between morality and science. Traditional and contemporary writers will be considered.

50(1150) Major Questions in Philosophy (3) [V,H]

A study and discussion of representative topics in philosophy such as free will and determinism, concepts of mind and body, the basis of value judgments, knowledge and belief, and the possibility of constructing a world view.

60(1160) Logic and Language (3) [V,H]

An introduction to the language and logical structure of arguments, the principles of sound reasoning, and application of these principles in a variety of contexts.

85(1185) Philosophy of Religion (3) [V,H]

A philosophical investigation of such problems as the nature of religious faith and experience, the relation of faith and reason, alternative concepts of deity, and the problem of evil.

90(1090) Telecourse: Philosophy and Other Disciplines (3) [V,H]

Video course offering. General introduction to philosophy examines its connections to works of art and related areas. Course does not satisfy any requirements for philosophy major or minor.

91(1091) Telecourse: Significant Figures in Philosophy [V,H]

Video course introduces philosophy through a survey of the ideas of some of the important figures in the history of the discipline. Course cannot be used to satisfy any requirements for philosophy major or minor.

101(3301) Ancient Philosophy (3)

Freshmen admitted by consent of department. The principal philosophical doctrines of the ancient world, with special emphasis on the philosophies of Plato and Aristotle. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

102(3302) Medieval Philosophy (3)

A critical study of the important philosophies of the period from Augustine to the Renaissance. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

103(3303) Early Modern Philosophy (3)

Principal figures in the development of rationalism, empiricism and skepticism in early modern Europe, from Descartes through Hume. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

104(3304) Kant and Nineteenth-Century Philosophy (3)

A study of Kant and such major nineteenth-century figures as Hegel and Nietzsche, Mill, and Peirce. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

105(3305) Twentieth-Century Philosophy (3)

Representative topics in contemporary philosophy, with readings selected from pragmatism, logical positivism, linguistic analysis, and existentialism. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

107(3307) American Philosophy (3)

Prerequisite: Six hours of philosophy or consent of instructor. A study of selected American philosophers.

120(1120) Asian Philosophy (3) [CD,V,H]

Critical study of selected philosophical classics of India and China.

125(1125) Islamic Philosophy (3) [CD,V,H]

Introduction to Arabic philosophy in the Islamic classical period (roughly from mid-9th through 12th centuries). Considers philosophical and theological background and examines the thought of such notable Islamic philosophers as al-Kindi, Ibn Sina, al-Ghazali, and Ibn Rushd. Topics include proofs for the existence of God, whether the world is eternal or had a beginning, the nature of the soul and whether it is immortal, and distinction between essence and existence. Fulfills cultural diversity requirement.

150(2250) Philosophy and Current Issues (3)

A careful examination of such current social controversies as women's liberation, the ethics of abortion, public accountability of holders of high offices, and the subtler forms of racism and other prejudices. Although there is no formal prerequisite, it is recommended that students have taken, or be concurrently enrolled in, at least one other philosophy course

152(2252) Philosophical Foundations of Criminal Justice (3) [V,H]

(Same as CCJ 152(2252). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pre-trial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey the laws? Are laws restricting civil liberty (e.g., laws against abortion, homosexuality, or drug use) permissible?

153(2253) Philosophy and Feminism (3) [V,H]

A critical examination of what various philosophers have said about issues of concern to women. Sample topics include oppression, racism, women's nature, femininity, marriage, motherhood, sexuality, pornography, the ethics of care.

154(2254) Business Ethics (3) [V,H]

A critical survey from the perspective of moral theory of businesses and business practices. Topics vary but usually include some of the following: whether the sole moral obligation of businesses is to make money; whether certain standard business practices, e.g., the creation of wants through advertising, are moral; whether businesses ought to be compelled, e.g., to protect the environment or participate in affirmative action programs.

156(2256) Bioethics (3) [V,H]

(Same as Gerontology 156(2256). An examination of ethical issues in health care practice and clinical research and in public policies affecting health care. Topics include abortion, euthanasia, health care, experimentation, informed consent, and the right to health care.

158(2258) Medicine, Values, and Society (3) [V,H]

Social, conceptual, and policy issues connected with medicine form the focus of the course. Topics may include: role played by race and gender in design of research and distribution of care; whether diseases are socially constructed categories reflecting the values of society; development of social policies that offer universal access to health care; the legitimacy of using Psychotropic drugs to enhance life, rather than treat disease. The course differs from Bioethics by emphasizing policy issues and their conceptual basis. Content of this course may vary.

160(3360) Formal Logic (3)

An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

174(2274) Philosophy and Literature (3)

Critical reading and discussion of selected literary works in terms of the philosophical problems they present.

175(2275) Philosophy and Film (3)

Study of selected films with emphasis on philosophical problems they address. Attention will be paid to film as an artistic medium and the capacities that distinguish it from other visual, and narrative, arts.

180(2280) Minds, Brains, and Machines (3) [V,H]

Introduction to basic philosophical issues in cognitive science. General topics include minds as computers; computers as minds, or the possibility of artificial intelligence that is truly intelligent; relationship between mental function and brain function. Some areas of current research, such as reasoning, vision, and emotion.

183(3383) The History of Science in Philosophical Perspective (3)

Course explores philosophical underpinnings of science, including assumptions about the nature of reality and about scientific methods, the role of logic and mathematics in science, and revolutions in science. These issues will be studied by exploring concrete examples of science, and tracing developments and changes in understandings of science. Content will vary, but the particular periods of science studied will typically include two or three of the following: ancient science, medieval science, early modern science, 19th century science, and/or 20th century science.

185(3385) Issues in Philosophy of Religion (3)

Prerequisite: Philosophy 85(1185) or Philosophy 50(1150) or consent of instructor. A careful examination of a selected topic in philosophy of religion or of philosophical issues arising in a selected religion. The topic or religion to be considered will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

258(4458) Ethics and the Computer

Prerequisites: 6 hours of course work above the level of Math 30(1030) in Math/Computer Science or at least 6 hours of philosophy or consent of instructor. Examination of ethical issues concerning the use of computers generally and software engineering in particular. Aims at developing awareness of these issues and skills for ethical decision making regarding them through careful, analytical methods. Typical issues include privacy, intellectual property, computer fraud, and others.

269(3369) The Marxist Heritage (3)

(Same as Political Science 269(3690) and Interdisciplinary 269(3690).) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

274(3374) Philosophy of Art (3)

(Same as Art 274(3374)) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

280(3380) Philosophy of Science (3)

An examination of logical and methodological problems related to the sciences, including the structure of scientific explanations, laws and theories; methods of concept formation; and confirmation and the problem of induction.

301(4401) Plato (3)

Prerequisite: Six hours of philosophy, a course in Ancient Philosophy recommended, graduate standing, or consent of instructor. A study of selected Platonic dialogues.

302 (4402) Aristotle (3)

Prerequisite: Six hours of philosophy, a course in Ancient Philosophy, recommended, graduate standing, or consent of instructor. A selective study of Aristotle's major works.

305(4405) The Rationalists (3)

Prerequisite: Six hours of philosophy, a course in Ancient Philosophy recommended, graduate standing, or consent of instructor. An examination of the philosophies of such major figures as Descartes, Spinoza, and Leibniz.

306(4406) The British Empiricists (3)

Prerequisite: Six hours of philosophy, a course in Early Modern Philosophy recommended, graduate standing, or consent of instructor. An examination of the philosophies of such major figures as Locke, Berkeley, and Hume.

307(4407) Kant (3)

Prerequisite: Six hours of philosophy, Phil 104(3304) or equivalent recommended, graduate standing, or consent of instructor. A systematic study of the Critique of Pure Reason.

308(4408) Hegel (3)

Prerequisite: Six hours of philosophy, Phil 104(3304) or equivalent recommended, graduate standing, or consent of instructor. A critical study of the writings and influence of Hegel.

309(4409) Phenomenology and Existentialism (3)

Prerequisites: Six hours of philosophy, Phil 105(3305) or equivalent recommended, graduate standing, or consent of instructor. A study of some major representatives of these schools from Kierkegaard to the present.

310(4410) Significant Figures in Philosophy (3)

Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Examination of the work of an important twentieth-century philosopher or philosophical movement. The philosopher or movement to be studied will be announced prior to registration. This is a variable content course that may be taken again for credit with approval of instructor and department chair..

315(5515) Ethics in Criminology and Criminal Justice (3)

(Same as Criminology and Criminal Justice 315(5515). Prerequisite: CCJ 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), Philosophy 153(2253), 154(2254), 156(2256), 330(4430), 335(4435), 338(4438), or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

320(4420) Topics in Non-Western Philosophy (3)

Prerequisites: Philosophy 120(1120), graduate standing, or consent of instructor. An extensive exploration of issues in some particular non-Western traditions (Islamic, Indian, or Chinese). This is a variable content course and may be taken again for credit with consent of instructor and department chair.

321(4421) The Analytic Tradition I: Origins to Logical Positivism (3)

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Philosophy 105(3305) and Philosophy 160(3360) strongly recommended. Course studies in depth the development of analytic philosophy through about 1950. Topics include key philosophical writings in this tradition beginning with Frege, Moore, and Russell and concluding with basic texts in logical positivism, with emphasis on Carnap, Schlick, Neurath and Hempel.

322 The Analytic Tradition II: Post-Positivism to Present (3)

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Phil 105(3305) and Phil 160(3360) strongly recommended. Study of reactions and responses to basic analytic techniques and positivist doctrines beginning with Wittgenstein, Quine, and Sellars. Implications of these critiques for style and substance of analytic philosophy are studied, including such contemporary developments as reassessment of positivism, revival of naturalism, and "death" of philosophy.

330(4430) Social and Political Philosophy (3)

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. An analysis of some fundamental concepts and assumptions involved in the theory and practice of social and political organization.

335(4435) Classical Ethical Theories

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Significant contributions to moral philosophy from Plato and Aristotle to Bentham and Mill.

338(4438) Recent Ethical Theory (3)

Prerequisite: Six hours of philosophy, graduate standing or consent of instructor. A study of major contributions to twentieth-century ethics, including works by such writers as Moore, Dewey, Ross, Stevenson, Hare, and Rawls.

339(4439) Topics in Ethical Theory (3)

Prerequisite: Philosophy 335(4435), 338(4438), nine hours of philosophy, graduate standing, or consent of instructor. Formulation and evaluation of major theories in normative ethics, metaethics, and axiology. Topics include egoism, moral realism, act and rule utilitarianism, and varieties of naturalism and non-naturalism in ethics. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

340(4440) Theories of Knowledge (3)

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of concepts and problems involved in the characterization of knowledge. Specific topics will vary, but will usually include knowledge, belief, skepticism, evidence, certainty, perception, truth, and necessity.

345(4445) Metaphysics (3)

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of selected metaphysical topics such as substance, universals, causality, necessity, space and time, free will, being, and identity.

350(4450) Special Readings in Philosophy (3)

Prerequisite: Special consent required. Independent study through readings, reports, and conferences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

351(4451) Special Topics in Philosophy (3)

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. A critical study of classical and/or contemporary contributions to a selected topic in philosophy. The topic to be considered will be announced prior to registration. This is a variable content course and can be taken again for credit with the consent of the instructor and department chair.

352(4452) Feminism and Science (3)

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. This course will explore major themes and issues in feminist science scholarship, a body of research that focuses on the relationship between science and gender. Feminist research in the philosophy and history of science, and in the biological sciences, are emphasized. Issues include: the nature of objectivity, evidence, and truth; the factors that contribute to the acceptance or rejection of research hypotheses and theories; the nature and consequences of science's cognitive authority; and the relationship between science and values.

353(4453) Feminist Ethical Theory (3)

Prerequisite: Philosophy 153(2253), six hours of philosophy, or consent of instructor. Examines two classic 18th century statements of sympathy-based moral theory in the works of Adam Smith and David Hume. The course, then looks at a number of contemporary works that attempt to delineate a decisively feminist ethical theory, e.g., the work of Carol Gilligan, Nel Noddin, and Virginia Held. The course explores as well differences among female, feminist, and lesbian ethical standpoints.

357(4457) Media Ethics (3)

Prerequisite: nine hours of philosophy or nine hours of communication or consent of instructor. (Same as Communication 357(3357)). This course is concerned with some of the issues that arise from the intersection of ethics and modern media communications. Attention is given to some of the more specific concerns of media ethics, such as truth, honesty, fairness, objectivity and bias; personal privacy and the public interest; advertising; conflicts of interest; censorship and offensive or dangerous content (pornography, violence). Particular attention will be given to problems posed by the development of personal computer communications through bulletin boards, on-line services, and the Internet.

360(4460) Advanced Formal Logic (3)

Prerequisite: Philosophy 160(3360), graduate standing, or consent of instructor. Rigorous study of major developments in contemporary logic. Emphasis is given to theoretical problems and some attention is devoted to philosophical issues arising from logic.

365(4465) Theory of Decisions and Games (3)

Prerequisite: Six hours of Philosophy and junior standing, PolSci 401(6401) (or the equivalent) or consent of instructor. (Same as PolSci 306(4060). A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content is strongly recommended.

369(4469) Topics in Political Philosophy (3)

Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Critical examination of philosophical theories of democracy, individual autonomy, political community, social justice, and other selected issues in political philosophy.

370(4470) Topics in Philosophy of Language (3)

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. Intensive examination of selected problems encountered in developing philosophical accounts of truth, reference, propositional attitudes, and related concepts. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

374(4474) Topics in Aesthetics (3)

Prerequisite: Philosophy 274(3374), graduate standing, or consent of instructor. Selected topics, such as vision and representation, musical aesthetics, and recent theorists. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

376(4476) Philosophy of History (3)

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Discussion and analysis of some philosophical problems raised by historical inquiry, such as subjectivity, relativism, the role of value judgments, and the nature of historical explanations.

378(4478) Topics in Philosophy of Mind (3)

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of selected topics at the interface of philosophical and psychological research. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

379(4479) Philosophy of Cognitive Science (3)

Prerequisite: Philosophy 378(4478), nine hours of philosophy, or consent of instructor. An exploration of the philosophical foundations and implications of cognitive science, a cooperative effort of philosophers, cognitive psychologists, brain scientists, computer scientists, and

others to understand the relationship between the mind and the brain.

380(5580) Topics in Philosophy of Science (3)

Prerequisite: Philosophy 280(3380), graduate standing, or consent of instructor. Intensive study of selected problems in philosophy of science. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

381(2281) The Darwinian Heritage (3)

Prerequisites: Six hours of philosophy (preferably including Phil 280(3380), Philosophy of Science, as 3 of these), graduate standing, or consent of instructor. Examines contributions to science made by Darwin's *Origin and Descent*, reception of Darwinism by scientists, and its continuing influence in biological, bio-behavioral, and social sciences. Also considers public reactions to Darwinism, including ways in which Darwin's views, and contemporary research in evolutionary theory and genetics, have been regarded as challenging long-held beliefs about "meaning and purpose" of human life.

382(4482) Philosophy of Social Science (3)

Prerequisite: Six hours of philosophy or consent of instructor. An intensive examination of selected topics such as the nature of explanation in social science versus natural science, interpretation theory, and the postmodernism debate (e.g., Habermas, Foucault, Clifford). This course may be repeated for credit on approval by the department.

383(4483) Topics in History and Philosophy of Science (3)

Prerequisites: Six hours of philosophy, Phil 280(3380); Philosophy of Science strongly recommended, graduate standing, or three hours of history, or consent of the instructor. Course begins by exploring research methods and interpretative approaches in the history of science and problems and schools of thought in the philosophy of science. It then turns to recent developments in which links have deepened between the two disciplines through shared research tools, assumptions, and projects. This is a variable content course and may be taken again for credit with consent of instructor and the department chair.

384(4484) Topics in History and Philosophy of Medicine (3)

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Focuses on the rise of philosophical issues associated with scientific medicine, including the emergence of physiology; identification of infectious and genetic diseases; development of effective drugs; rise of diagnostic and therapeutic technologies. Topics may include: disease concepts, the classification of diseases, logic of clinical diagnosis, medical explanation, and clinical decision-making. Topics may also include development of special medical areas such as immunology, cancer treatments, or organ transplantation. This is a variable content course and may be taken again for credit with consent of instructor and the department chair.

385(4485) Topics in Philosophy of Religion (3)

Prerequisite: Philosophy 185(3385), nine hours of philosophy, or consent of instructor. An intensive study of problems arising out of traditional and contemporary philosophical theology. This is a variable content course and may be taken again for credit with the consent of the instructor and the department chair.

387(4487) Topics in Philosophy of Law (3)

(Same as CCJ 233(4487).) Prerequisite: CCJ 010(1100) and 3 hours of philosophy, graduate standing or consent of instructor. An intensive study of recent philosophical debate about such issues as the authority of law, legal equality and justice, legal responsibility, self-determination and privacy, and legal punishment. This is a variable content course and may be taken again for credit with consent of the instructor and the department chair.

390(4490) Philosophical Issues in Other Disciplines (3)

Prerequisite: Nine hours in philosophy, graduate standing, or consent of instructor. An examination of selected philosophical issues in a discipline other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, chemistry, physics, or mathematics will be chosen, and philosophical issues selected and announced prior to registration, usually in consultation with the other department concerned. This course is normally taught as a seminar and attempts to serve advanced students in other departments with or without previous background in philosophy. This is a variable content course and may be taken again for credit with the consent of the instructor and the department chair.

391(4491) Senior Seminar (3)

Prerequisites: Senior standing; at least 12 hours of philosophy at the 100-level or above; or consent of instructor. Intensive study of a central philosophical problem. The course emphasizes the fundamentals of philosophical writing and scholarship. Students will write a major paper to be evaluated by two members of the Philosophy Department and the course instructor.

410(4410) Seminar in Significant Figures in Philosophy (3)

Prerequisites: Graduate standing. In-depth study of work of a single philosopher. Philosopher selected will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

421(4421) The Analytic Tradition (3)

Prerequisites: Graduate standing or consent of instructor. Course will focus on selected topics within the range of analytic philosophy. Topics may be historical (e.g. development of logicism, the reassessment of positivism) or contemporary, e.g., issues in philosophical semantics or post-analytic conceptions of philosophy.

430(5530) Seminar in Social and Political Philosophy (3)

Prerequisites: Graduate standing or consent of instructor. An intensive study of contemporary philosophical debate about such issues 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.

431(5531) The Nature of Punishment (3)

(Same as CCJ 431(5531).) Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

433(5533) Philosophy of Law (3)

(Same as CCJ 433(5533).) Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

438(5538) Seminar in Ethical Theory (3)

Prerequisites: Graduate standing or consent of instructor. Answers questions from normative ethics or metaethics, which may include the following: What do all morally wrong actions have in common? What does the word "wrong" mean? How, if at all, can we verify moral judgements? Are any moral judgements valid for all societies? Do we always have good reason to be moral?

440(5540) Seminar in Epistemology (3)

Prerequisites: Graduate standing or consent of instructor. Close study of selected topics, texts, or individuals in epistemology. Topics may include (but are not limited to) theories of justification, naturalism in epistemology, and conceptions of knowledge. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

445(5545) Seminar in Metaphysics (3)

Prerequisites: Graduate standing. Intensive study of a selected topic or problem area in metaphysics, e.g., mind-body identity, nature of the self, or conception of time. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

451(5551) Special Readings in Philosophy (3)

Prerequisites: Graduate standing, written consent of instructor. Independent study through readings, reports, and conferences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

455(5555) Ethical and Legal Issues in Criminal Justice (3)

(Same as Criminology and Criminal Justice 455(5555)). Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology, and research and professional ethics.

460 (5560) Seminar in Logic (3)

Prerequisites: Graduate standing. Focused study of topics in logic and/or its history. Representative topics include Aristotelian logic, modal logic, Gödel incompleteness theorems, relevance logic, paraconsistent logic, free logic. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

473 Philosophy of Education (3)

Prerequisites: Graduate standing or consent of instructor. Same as Educational Foundations 421(6421). Critical examination of selected issues in education from the perspective of Western philosophy. Topics may include the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the role of public educational institutions.

478 Seminar in Philosophy of Mind (3)

Prerequisites: Graduate standing. Topics may include functionalism and physicalism; representation and nature of propositional attitudes such as belief, desire, and various emotions; folk psychology and knowledge of other minds; introspection and knowledge of one's own mind; conscious and unconscious mental states and processes. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

479(5579) Seminar in Philosophy of Cognitive Science (3)

Prerequisites: Graduate standing. General topics include role of computation in cognitive science, merits of symbolic computation and connectionism, aims and methods of artificial intelligence, and relationship between cognitive science and our everyday understanding of people. Specific topics may

include perception, reasoning, consciousness, language, emotion, and will. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

480(5580) Seminar in Philosophy of Science (3)

Prerequisites: Graduate standing or consent of instructor. Focus on recent issues and controversies. Topics may include theories and observation, models of explanation, confirmation, realism and antirealism, empiricism and naturalism, "social construction" and feminist views of science. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

482(5582) Seminar in Philosophy of Social Science (3)

Prerequisites: Graduate standing or consent of instructor. Intensive examination of selected topics, e.g., nature of explanation in social science, postmodernism debate (e.g., Habermas, Foucault, Clifford), or relation of social to natural sciences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

490(5590) Philosophical Issues in Other Disciplines (3)

Prerequisites: Graduate standing or consent of instructor. Examination of selected philosophical issues in disciplines other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, chemistry, physics, or mathematics will be chosen. The discipline(s) and issues selected will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

495 Thesis Research (3)

Prerequisites: Graduate standing or consent of instructor. May be repeated once for credit with consent of instructor and department chair.

Department of Physics and Astronomy

Faculty

Bruce A. Wilking, Professor*, Chairperson
Ph.D., University of Arizona

Jacob J. Leventhal, Curators' Professor*
Ph.D., University of Florida

Frank Edward Moss, Curators' Professor*
Ph.D., University of Virginia

Ta-Pei Cheng, Professor*
Ph.D., Rockefeller University

Bernard Joseph Feldman, Professor*
Ph.D., Harvard University

Ricardo A. Flores, Professor*
Ph.D., University of California-Santa Cruz

Peter Herwig Handel, Professor*
Ph.D., University of Bucharest

Bob Londes Henson, Professor*
Ph.D., Washington University

Richard Dean Schwartz, Professor*
Ph.D., University of Washington

Grant Vincent Welland, Professor*
Ph.D., Purdue University

Philip Fraundorf, Associate Professor*
Ph.D., Washington University

Vasudevan 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

Mark L. Spano, Adjunct Professor
Ph.D., University of Maryland

Mary Jane Kernan, Adjunct Associate Professor Ph.D.,
Washington University

Mary M. Leopold, Adjunct Associate Professor
Ph.D., Washington University

Lu Fei, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Jingyue Liu, Adjunct Assistant Professor
Ph.D., Arizona State University

Lucio Mule'Stagno, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Daniel J. Leopold, Research Associate Professor
Ph.D., Washington University

Aleksandr B. Neyman, Research Associate Professor
Ph.D., Dr. Sc., Saratov State University, Russia

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The Department of Physics & Astronomy offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the College of Education, the B.A.

in physics with teacher certification and the B.S. in education with an emphasis in physics.

The department offers meritorious junior and senior students opportunities to participate in teaching and research to help prepare them for the independent effort required in industry or graduate school. The department's faculty members have a diversity of interests and are active in various experimental and theoretical research areas.

Graduate work leading to the Master of Science in physics is also offered. The M.S. in physics program combines a sound basis in the fundamental areas of classical and modern physics from both a theoretical and an applied perspective. The program is designed to enable students with undergraduate backgrounds in physics or other technical areas to further their professional development and maintain and improve their technical development. The program is offered almost entirely in the evening to serve students who are employed locally. The department offers the Ph.D. degree in cooperation with the University of Missouri-Rolla Physics Department. Students must satisfy the UM-Rolla admission standards, and the UM-Rolla Qualifying Exam in Physics is required of UM-St. Louis Ph.D. students. However, all course work and dissertation research may be completed while the student is in residence at UM-St. Louis.

Undergraduate Studies

General Education Requirements: Majors must complete the university and college general education requirements. Any of the following courses may be used to satisfy the physical science requirement:

Astronomy: 1(1001), 11(1011), 12(1012), 22(1022), 50(1050), 51(1051), 121(1121).

Atmospheric Science: 1(1001).

Geology: 1(1001), 2(1002).

Physics: 1(1001), 11(1011), 12(1012), 111(2111), 112(2112)

Degree Requirements

All physics majors in all programs must complete the physics core curriculum. In addition to the core courses, each individual program has its own specific requirements. Required Physics, Mathematics, Chemistry, Biology, Optometry and Computer Science courses for a major or minor in physics may not be taken on a satisfactory/unsatisfactory grading basis.

Core Curriculum The following physics courses are required:

111(2111), Mechanics and Heat

112(2112), Electricity, Magnetism, and Optics

200(3200), Survey of Theoretical Physics

221(3221), Mechanics

223(3223), Electricity and Magnetism

231(3231), Introduction to Modern Physics I

Also required are:

Math 80(1800), Analytic Geometry and Calculus I
Math 175(1900), Analytic Geometry and Calculus II
Math 180(2000), Analytic Geometry and Calculus III
Math 202(2020), Introduction to Differential Equations
Chem 11(1111), Introductory Chemistry I or equivalent
Computer Science 125(1250), Introduction to Computer Science

Note Students are urged to begin the calculus sequence (Math 80(1800), Analytic Geometry and Calculus I) as soon as possible to avoid delays in graduation.

Students with experience in digital computer programming may be excused from Computer Science 125(1250).

Bachelor of Arts in Physics The B.A. program is tailored to students wishing to preserve the option for specialization in graduate school without sacrificing the advantages of a liberal arts education. In addition to the core curriculum, including the foreign language requirement, at least three electives at the 200 or 300 level must be completed. At least 31 hours of physics courses, but no more than 45 hours, are required.

Bachelor of Science in Physics The B.S. degree provides students with five options: general physics, astrophysics, engineering physics, medical physics or optical biophysics.

General Physics Option

This option may be elected by students desiring a greater concentration in physics and mathematics and is recommended for students wishing to enter graduate study in physics. At least 49 hours, but no more than 52, are required. In addition to the core curriculum, the following physics courses are required:
304(4310), Modern Electronics
311(4311), Advanced Physics Laboratory I
323(4323), Modern Optics
331(4331), Introduction to Quantum Mechanics
341(4341), Thermal and Statistical Physics
and four electives at the 300 level in physics or astronomy.

Also required are:

Math

245(2450), Elementary Linear Algebra
303(4030), Applied Mathematics II

Chem

012(1121), Introductory Chemistry II, or equivalent
and one elective in math or computer science at or above the 200 level.

Astrophysics Option

This option may be elected by students who have interests in the aerospace sciences or anticipate graduate studies in astrophysics. At least 47 hours, but not more than 51, must be taken. In addition to the core curriculum, the following courses are required:

Physics

323(4323), Modern Optics
331(4331), Introduction to Quantum Mechanics
341(4341), Thermal and Statistical Physics
Astronomy
50(1050), Introduction to Astronomy I
51(1051), Introduction to Astronomy II
301(4301), Astrophysics
322(4322), Observational Astronomy

And one physics electives at the 300 level. With consent of the astronomy adviser, there may be substitution of Astronomy 1(1001), 11(1011), or 12(1012) for 50(1050) or 51(1051).

Also required are:

Math 245(2450), Elementary Linear Algebra
Math 303(4030), Applied Mathematics 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

144(2310), Statics
145(2320), Dynamics
Joint Electrical Engineering
180(2800), Introduction to Electrical Networks
Physics
304(4310), Modern Electronics
311(4311), Advanced Physics Laboratory I
323(4323), Modern Optics
331(4331), Introduction to Quantum Mechanics
341(4341), Thermal and Statistical Physics
Math

132(1320), Applied Statistics I

Also required are two additional courses in computer science or numerical analysis at or above the 200 level.

Medical Physics Option

This option is designed for students who are interested in careers in various medical fields or biophysics. This option provides a strong preparation in physics, mathematics, chemistry, and biology for students who intend to apply for admission to medical schools. At least 41 hours of physics and biology combined, but no more than 51, are required. In addition to the physics core curriculum, the following physics and biology courses are required:

Physics

304(4310), Modern Electronics

Biology

11(1811), Introductory Biology I

12(1821), Introductory Biology II

and two additional physics electives at the 300 level.

Also required are:

Chemistry

12(1121), Introductory Chemistry II

261(2612), Organic Chemistry I

262(2622), Organic Chemistry II

263(2633), Organic Chemistry Laboratory

Note: With approval of the chairperson of physics and astronomy, students with strong mathematical preparations who have already completed the Physics 11(1011) and Physics 12(1012) sequence in basic physics may substitute these courses for two required core courses Physics 111(2111) and Physics 112(2112), respectively. However, this is not the recommended route because Physics 111(2111) and 112(2112) give significantly better preparation for the required junior-level physics core courses. It would be the individual student's responsibility to make up any resulting deficiencies.

Optical Biophysics Option

This program is designed for students wanting to obtain a strong biophysics emphasis that will also prepare them for the optometry program at UM-St. Louis. This 3+4 program allows students to complete their B.S. in physics and Doctor of Optometry degrees in seven years. Students can complete their B.S. in physics degree in their fourth year while starting coursework in the College of Optometry. A total of 52 hours in physics, biology, and optometry courses are required. In addition to the physics core curriculum, the following courses are required:

Physics

341(4341), Thermal and Statistical Physics

Biology

11(1811), Introduction to Biology I

12(1812), Introduction to Biology II

216(2482), Microbiology

218(2483), Microbiology Laboratory

Optometry (fourth year only)

505(8020), Geometric Optics

512(8060), Biochemistry

515(8120), Ocular Optics

516(8130), Physiological Optics Lab

519(8150), Physical Optics and Photometry Lab

Also required are:

Chemistry

12(1121), Introductory Chemistry II

261(2612), Organic Chemistry I

262(2622), Organic Chemistry II

263(2633), Organic Chemistry Laboratory

Psychology

3(1003), General Psychology

201(2201), Psychological Statistics

Note: Upon declaring physics as a major and selecting this option, students should seek an initial interview with the Director of Student Affairs and the Pre-Optometry Advisor in the UM-St. Louis College of Optometry to ensure that all prerequisites for the College of Optometry will be completed. A similar review is recommended at the beginning of the Winter Semester of the second year. In August following the completion of their second year of this program, students may apply formally to the UM-St. Louis College of Optometry and arrange to take the Optometry Admissions Test (OAT) in October of their third year. The applicant will be invited for a formal interview for acceptance into the College of Optometry professional program following receipt of a completed application in the Fall Semester of the candidate's third year. Following the formal interview with the College of Optometry at the beginning of the third year, students with a 3.0 or better grade point average in the science prerequisites for optometry and a score of 310 or better on the OAT exam may be accepted into the College of Optometry.

B.S. degree in Secondary Education with an Emphasis in Physics.

All candidates must enroll in a program that includes Levels I, II and III coursework in the College of Education. In addition, students must complete the following Science Core Courses and the courses listed under Physics Endorsement:

Science Core Courses:

Philosophy 280(3380), Philosophy of Science

Biology

11(1811), Introductory Biology I

12(1821), Introductory Biology II

Chemistry

11(1111), Introductory Chemistry I

12(1121), Introductory Chemistry II

Geology 1(1001), General Geology

Atmospheric Science 1(1001), Elementary Meteorology

Biology 120(1202), Environmental Biology or another environmental science

Physics

111(2111), Physics: Mechanics and Heat

112(2112), Physics: Electricity, Magnetism, and Optics

Physics Endorsement**Physics**

200(3200), Survey of Theoretical Physics

221(3221), Mechanics

223(3223), Electricity and Magnetism

231(3231), Introduction to Modern Physics

304(4310), Modern Electronics

311(4311), Advanced Physics Laboratory I
280(4802), or Education 240(3240), Methods of Teaching
Science in Secondary Schools
283(4837), Teaching Intern Seminar

Minor in Physics

Students may complete a minor in physics with the flexibility of emphasis on classical physics, modern physics, or a combination of the two areas. The following physics courses are required:

111(2111), Mechanics and Heat
112(2112), Electricity, Magnetism, and Optics
200(3200), Survey of Theoretical Physics
and two additional emphasis courses chosen from the following physics courses:
221(3221), Mechanics
223(3223), Electricity and Magnetism
231(3231), Introduction to Modern Physics
304(4310), Modern Electronics

A GPA of at least 2.0 is required in courses presented for a minor. It is required that a student completes a minimum of 6 hours of graded work in 100 level or above courses on the UM-St. Louis campus.

Graduate Studies

Admission Requirements

The department requires applicants to have adequate backgrounds in such areas as mechanics, thermodynamics, electromagnetism, optics, electronics, and modern physics. Students admitted to the program with deficiencies in these areas are required to take appropriate undergraduate courses. If necessary, a remedial program is determined in consultation with the department graduate studies director at the time of application for admission.

Graduate Degree Requirements

Master's

A student must complete 30 credit hours in graduate physics courses with at least 15 of these at the 400 level. The writing of a thesis is optional; a maximum of 6 credit hours may be counted for thesis research. A comprehensive examination must be passed, which includes a defense of the thesis if the student has chosen to write one. A grade point average of 3.0 must be maintained during each academic year. The requirements must be fulfilled within six years from the time of admission. Two-thirds of required graduate credit must be taken in residence. No language requirement.

Doctorate

A minimum of 48 hours past the master's degree with satisfactory performance. Residency requirement of three years/six semesters (for those with master's degree, two years/four semesters) at UM-St. Louis and/or cooperating UM-Rolla campus. Ph.D. qualifying exam, dissertation,

dissertation exam administered in cooperation with UM-Rolla.

Overall requirement of B grades or better.

Dissertation may be written in absentia. No language requirement.

Special Equipment, Facilities, or Programs

The supporting facilities of the University of Missouri- St. Louis include a modern library with holdings in excess of 1,067,258 bound volumes, a microtext department containing 1,255,484 titles, and approximately 758,802 titles in the government documents section. Campus computing facilities include a UNIX system and workstations. The

Department maintains a workstation for image processing. The physics department operates a machine shop and an electronics shop. In addition, the department maintains a library containing some of the most frequently used physics journals.

Typical Program:

First Semester

Physics: 400-level and 300-level course

Total: 6 hours

Second Semester

Physics: 400-level and 300-level course

Total: 6 hours

Third Semester

Physics: 400-level and 300-level course

Physics 490(6490), Thesis Research or Seminar

Total: 9 hours

Fourth Semester

Physics: 400-level and 300-level course

Physics 490(6490) Thesis Research or Seminar

Total: 9 hours

Career Outlook

Many of our students have been successful in subsequent graduate studies in astronomy and meteorology, as well as in physics. Our alumni have pursued graduate studies and earned doctorate degrees at institutions such as Cornell University, University of Wisconsin, Washington University, and University of Chicago. The many students who elected a career in industry are now working in a variety of settings for such firms as International Business Machines, Emerson Electric, Southwestern Bell, Hewlett-Packard, Boeing, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.

Course Descriptions

Prerequisites may be waived by consent of the department. Courses in this section are grouped as follows: Astronomy; Atmospheric Science; Geology; and Physics.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary 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: 1(1001), 11(1011), 12(1012), 22(1022), 50(1050), 51(1051), 121(1121).

ATMOSPHERIC SCIENCE: 1(1001).

GEOLOGY: 1(1001), 2(1002).

PHYSICS: 1(1001), 11(1011), 12(1012), 111(2111), 112(2112).

Astronomy

1(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 lectures and two multimedia laboratories.

11(1011) Planets and Life in the Universe (3) [MS]

Man's concept of the solar system from Stonehenge to Einstein; geology and meteorology of the planets of our solar system, with particular attention to results from the space program; exobiology-study of the possibilities of life on other worlds and the best method of communicating with it. Three lecture hours per week.

12(1012) The Violent Universe and the New Astronomy (3)[MS]

A 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 lecture hours and one observing session per week.

22(1022) Practical Astronomy (2)[MS]

Prerequisite: Astronomy 1(1001) or 11(1011). Designed to acquaint students with observational astronomy: constellations, planets, stars, nebulae, and galaxies. Students will become familiar with operation of a telescope and its use in visual observation and photography. The basics of astronomical nomenclature and coordinates will also be emphasized. This course is primarily for nonscientists.

50(1050) Introduction to Astronomy I (3)[MS]

Prerequisites: Math 30(1030) and 35(1035). A survey of the history of astronomy from the ancient times to the present. The motions of the planets and stars, real and apparent, tools of the astronomer. A study of our solar system, concentrating on results of the space program.

51(1051) Introduction to Astronomy II (3)[MS]

Prerequisites: Math 30(1030) and 35(1035). A survey of astronomy and cosmology focusing on discoveries and phenomena outside of the solar system: stars, galaxies, quasars, etc.

121(1121) The Search for Extraterrestrial Life (3)[MS]

Prerequisite: Astronomy 1(1001) or 11(1011). Are we alone? The possibility of life in the universe in addition to our own will be explored. Our discussion of the chances for extraterrestrial life will be built around the current theories of chemical, biological, and cultural evolution, which have led to our own technological civilization on Earth. Strategies for communication with extraterrestrial intelligence will be discussed.

301(4301) Astrophysics (3)

Prerequisite: Physics 231(3231) or consent of instructor. A moderately technical introduction to astrophysics. Topics will include: physics of stellar interiors and atmospheres; interpretation of stellar spectra; stellar evolution; radio astronomy; and cosmology.

322(4322) Observational Astronomy (4)

Prerequisites: Astronomy 50(1050), Astronomy 51(1051), and Math 180(2000) or consent of instructor. Tools of the astronomer: telescopes, spectroscopy, 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

1(1001) Elementary Meteorology (4)[MS][MI]

Prerequisite: High school physics or chemistry. An elementary survey of atmospheric phenomena intended to fulfill the science requirement. Topics included are temperature, pressure, and moisture distributions in the atmosphere and dynamical effects such as radiation, stability, storms, and general circulation. Applications to weather forecasting. Three hours of lecture and two hours of laboratory per week.

Geology**1(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.

2(1002) Historical Geology (4)[MI, MS]

Prerequisite: Geology 1(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.

53(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**1(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.

11(1011) Basic Physics (4)[MI, MS]

Prerequisite: Math 80(1800) or 100(1100) may be taken concurrently. A survey course specifically designed for students in health and life sciences covering such topics as classical mechanics, heat, sound, electricity, magnetism, light, and radiation. Will not fulfill the Physics 111(2111) requirement for physics, chemistry, and engineering majors. Three hours of lecture and two hours of laboratory.

12(1012) Basic Physics (4)[MI,MS]

Prerequisite: Physics 11(1011). Continuation of Physics 11(1011).

50 (2111) Introduction to Physics (4)

Prerequisite: Math 30(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 Physics 111. Three hours of lecture and two hours of laboratory per week.

111(2111) Physics: Mechanics and Heat (5)[MS,MI]

Prerequisite: Math 80(1800) or 100(1100). Physics 1(1001), or Chemistry 12(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 hours lecture, one hour discussion, and two hours of laboratory per week.

112(2112) Physics: Electricity, Magnetism, and Optics (5)[MI, MS]

Prerequisites: Physics 111(2111) and Math 175(1900). A phenomenological introduction to the concepts and laws of electricity and magnetism, electromagnetic waves, optics and electrical circuits for physics majors and students in other departments. Three hours of lecture, one hour of discussion, and two hours of laboratory per week.

200(3200) Survey of Theoretical Physics (3)

Prerequisites: Physics 112 (2112) and Math 180(2000). Mathematical techniques specifically used in the study of mechanics, electricity, magnetism, and atomic physics are developed in the context of various physical problems. In particular, statics problems in electricity and magnetism are emphasized as applications of vector analysis, solutions of Laplace's equation, coordinate systems, and numerical techniques.

221(3221) Mechanics (3)

Prerequisites: Physics 200(3200) and Math 202(2020). Math 202(2020) may be taken concurrently. Advanced course covering rigid-body dynamics, damped and undamped oscillatory motion, with an introduction of Lagrange's equations and variational principles. Three hours of lecture and one hour of discussion per week.

223(3223) Electricity and Magnetism (3)

Prerequisites: Physics 200 (3200) and Math 202(2020) (Math 202(2020) may be taken concurrently). Electromagnetic fields, including electrostatics, dielectric materials, solution to Laplace's equation, currents and magnetic fields, motion to charged particles, and introduction to electromagnetic waves. Three hours of lecture and one hour of discussion per week.

231(3231) Introduction to Modern Physics I (3)

Prerequisite: Physics 111(2111), 112(2112), and Math 202(2020) (may be taken concurrently) and Physics 200(3200) strongly recommended. Photons and the wave nature of particles, wave mechanics, Schroedinger's equations, with applications to atomic physics; and radiation; the physics of solids; elementary particles; relativity; health physics. Three hours of lecture and one discussion section per week.

280(4802) Curriculum and Methods of Teaching Physical Sciences (3)

(Same as SEC ED 240(3240). Prerequisites: SEC ED 213(3213) and a near-major in the subject 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.

281(3281) Directed Readings in Physics (1-5)

Prerequisite: Consent of instructor. A study of the literature of physics. A paper is required on an approved topic. Topics must be substantially different. Hours arranged.

283(4387) Chemistry/Physics Teaching Intern Seminar (1)

(Same as Chemistry 283(4837)). Prerequisite: Chem 280(4802) or Physics 280(4802). A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290.(3290) One hour discussion per week.

289(3410) Seminar (1)

Presentation of selected papers by students and faculty members at weekly meeting. May be taken twice for credit.

301(5402) Introduction to Mathematical Physics (3)

Prerequisites: Sixteen hours of physics. A course covering mathematical techniques as applied to equations of theoretical physics, calculus of variations, Green's functions; linear vector spaces, and integral equations. Three hours of lecture and one hour of discussion per week.

304(4310) Modern Electronics (3)

An integrated recitation/laboratory study of modern analog and digital electronics with emphasis on integrated circuits. Topics include circuit elements, operational amplifiers, logic gates, counters, adc/dac converters, noise reduction, microprocessors, embedded microcontrollers, and digital processing. Three hours of lecture/laboratory per week.

306(4306) Emergent Microscopy Practicals (1-3)

Prerequisite: Consent of Instructor (1.0 credit hour per module with a maximum of 3 credit hours) A critical web-based/laboratory study of developing nanoworld microscopy techniques, designed for microscopy clients and future microscope operators. The course consist of larger set to include (a) electron microscopy, (b) materials microscopy, (c) scanned-probe microscopy, with each module covering instrumentation, wide ranging uses, and weaknesses to avoid. Each module requires two lab visits for hands-on experiences, and three sessions of structured web and e-mail interaction per week.

307(4307) Scanning Electron Microscopy (3)

Prerequisite: Consent of instructor. A lecture/laboratory study of scientific research techniques using scanning electron microscopy (SEM). Course includes electron gun/lens optics, beam-specimen interactions, image formation, associated x-ray techniques, and analysis of images. Two hours lecture and two hours laboratory each week.

308(5308) Transmission Electron Microscopy (3)

Prerequisite: Physics 307(4307) or consent of instructor. A lecture/laboratory study of transmission electron microscopy (TEM) in conventional, analytical, and phase-contrast (high resolution) applications. Course includes advanced electron optics and image formation, defect structures, specimen preparation, contrast theory, diffraction/periodicity analysis, and electron energy loss x-ray spectroscopy. Two hours lecture and two hours laboratory per week.

309(4309) Scanning Probe Microscopy (3)

Prerequisite: Physics 307(4307) or consent of instructor. A lecture/laboratory study of research techniques using scanning probe microscopy. Topics include atomic force microscopy, scanning tunneling microscopy, feedback control, scanning tip fabrication, scan calibrations, air/solution/vacuum imaging, image processing and analysis, near-field optical probes, metrology, and lateral force/displacement microscopy. Applications in physics chemistry, biology, engineering, and surface science are discussed. Two hours lecture and two hours laboratory per week.

311(4311) Advanced Physics Laboratory I (3)

Prerequisites: Advanced standing with at least nine completed hours of Physics at or above the 200 level. Physics majors are introduced to the experimental techniques used in research. A student will choose and do several special problems during the semester. Six hours of laboratory per week.

323(4323) Modern Optics (3)

Prerequisite: Physics 223(3223). A study of modern optics including diffraction theory, polarization, light propagation in solids, quantum optics, and coherence. Three hours of lecture and one discussion per week.

325(4325) Topics in Modern Applied Physics (3)

Prerequisites: Physics 304(4310) and Math 202(2020). Topics are taken from modern applications of physics which may include linear analysis, nonlinear analysis, Fourier transform spectroscopy, wavelet analysis, noise and fluctuation phenomena, material science, physical electronics, optical techniques, and scanning tip microscopy. Three hours of lecture and one hour of discussion per week.

331(4331) Introduction to Quantum Mechanics (3)

Prerequisites: Physics 200(3200) and 231(3231). Photons and the wave nature of particles; wave mechanics, Schroedinger equation, and applications to single systems, atomic physics and spectroscopy; molecular physics, nuclear models and reactions, the physics of solids; elementary particles, relativity. Three hours of lecture and one discussion section per week.

335(4335) Atomic and Nuclear Physics (3)

Prerequisite: Physics 331(4331). Application of Schroedinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses, energy levels; alpha, beta, and gamma radiation, nuclear reaction, and models of the nucleus. Three hours of lecture and one hour of discussion per week.

341(4341) Thermal and Statistical Physics (3)

Prerequisites: Math 180(2000) and Physics 231(3231). Introduction to statistical mechanics, laws of thermodynamics, kinetic theory. Three hours of lecture and one hour of discussion per week.

343(4343) Selected Topics in Physics I (3)

Prerequisites: Physics 221(3221), 223(3223), 231(3231), and 341(4341). Topics include special phenomena from research areas such as scattering of waves, biophysics, nonlinear physics, geophysical fluid dynamics and the atmospheric sciences treated by methods of advanced mechanics, thermodynamics and quantum mechanics. Three hours of lecture per week.

350(4350) Computational Physics (3)

Prerequisite: Computer Science 125(1250), plus Physics 221(3221), 223(3223), and 231(3231). Computer analysis in physics; solutions of eigenvalue problems; coupled differential equations.

351(4351) Elementary Solid State Physics (3)

Prerequisite: Physics 331(4331). Theoretical and experimental aspects of solid state physics, including one-dimensional band theory of solids; electron emission from metals and semiconductors; electrical and thermal conductivity of solids. Three hours of lecture and one hour of discussion per week.

353(4353) Physics of Fluids (3)

Prerequisites: Physics 221(3221), 223(3223), and 341(4341), or consent of instructor. Topics from the theory of gases, liquids, or plasmas. Dynamical properties of one of these forms of matter will be developed with contemporary applications stressed.

354(4354) Atmospheric Physics (3)

Prerequisite: Physics 341(4341). Topics from dynamic and physical meteorology including the ionosphere. Application of thermodynamics, optics, radiation, and mechanics to atmospheric phenomena.

356 (4356) Quantum Optics (3)

Prerequisites: Physics 200(3200) and 231(3231), and Math 202(2020). Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography.

357(4357) Subatomic Physics (3)

Prerequisites: Physics 223(3223), 231(3231) and 331(4331), may be taken concurrently. Introduction to nuclear and particle physics. Nuclear phenomenology and models; high energy particle accelerators and detectors; phenomenology of strong, electromagnetic and weak interactions; symmetry principles; quark compositions of strongly interacting baryons and mesons; gauge theories and the standard model of particle interactions; grand unification. Three hours of lecture and one hour of discussion per week.

365(4365) Introduction to Plasma Physics (3)

Prerequisite: Physics 223(3223) and 341(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 advance electromagnetism and statistical physics are utilized. Three hours of lecture and one hour of discussion per week.

370(4370) Relativity and Cosmology (3)

Prerequisites: Physics 221(3221), 223(3223), and 231(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 hours of lecture and one hour of discussion per week.

381(4381) Directed Readings in Physics (1-10)

Prerequisite: Consent of instructor. A study of special topics in physics for senior undergraduates or graduate students.

390 (3390) Research (1-10)

Prerequisite: Consent of department. Independent research projects arranged between student and instructor. Hours arranged.

395(5403) Principles of Mathematical Physics (4)

Boundary value problems; Green's function techniques; and introduction to group theory with emphasis on representations of Lie Algebras.

400(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.

401(6401) Special Topics (1-4)

Prerequisite: Consent of instructor. This course is designed to give the department an opportunity to test a new course.

404(6404) Experimental Research Techniques (3)

Prerequisite: Graduate standing. Experiments in various fields of physics designed to stress techniques and experimental approach.

405(6405) Theoretical Physics I (3)

Prerequisites: Physics 221(3221) and 223(3223) or equivalent. Newton's laws applied to simple systems, central force problem, variational principles. Lagrangian and Hamiltonian formulations, electrostatics. Maxwell field operations, wave propagation.

406(6406) Theoretical Physics II (3)

Prerequisites: Physics 231(3231), 341(4341), or equivalent, and Physics 405(6405). Schroedinger equation and wave mechanical treatment of simple systems: perturbation theory; identical particles and spin. Laws of thermodynamics, canonical systems; thermodynamic potentials and Maxwell equations, open systems, and chemical potential. Clausius-Clapeyron equation.

407 (6407) Modern Physics (3)

Prerequisite: Physics 331(4331). A study of some of the more important concepts of modern physics.

409 (6409) Theoretical Mechanics I (3)

Prerequisite: Physics 221(3221). Classical mechanics, methods of Newton, Lagrange, and Hamilton, applied to motion of particles and rigid bodies, elasticity, and hydrodynamics.

410(6410) Seminar (variable hours)

Prerequisite: Approval of department chair. Discussion of current topics.

411(6411) Electrodynamics I (3)

Prerequisite: Physics 223(3223). A rigorous development of the fundamentals of electromagnetic fields and waves. Electrostatics, magnetostatics, Maxwell's equations, Green's functions, boundary value problems, multipoles, and conservation laws.

413(6413) Statistical Mechanics (3)

Prerequisites: Physics 331(4331) and 341(4341). A study of statistical ensembles; Maxwell-Boltzmann, Fermi-Dirac, and Einstein-Bose distribution laws, application to some simple physical systems.

415(6415) Theoretical Mechanics II (3)

Prerequisite: Physics 409(6409). Transformation theory of mechanics, Lagrange and Poisson brackets, Hamilton-Jacobi theory, introduction to the classical theory of fields.

417(6417) Advanced Statistical Mechanics (3)

Prerequisite: Physics 413(6413). A continuation of Physics 413(6413). Further applications as to such topics as the imperfect gas, condensation and the critical region, magnetism, liquid state, and transport phenomena.

423(6423) Electrodynamics II (3)

Prerequisite: Physics 411(6411). A continuation of Physics 411(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.

425 (6425) Plasma Physics (3)

Prerequisites: Physics 341(4341) and 411(6411). Fundamentals of kinetic theory, fluid equations, MHD equations, and applications; wave propagation, shielding effect, diffusion stability, and charged particle trajectories.

435 (6435) Cloud Physics (3)

Prerequisites: Physics 223(3223) and 341(4341). A study of cloud microphysics and dynamics, atmospheric condensation and freezing nuclei, phase, precipitation mechanisms; aerosol scavenging, role of electrification, current dynamical models, and review of diagnostic techniques.

455 (6455) Theoretical Nuclear Physics (3)

Prerequisite: Physics 461(6461). A study of the basic properties of nuclei, nuclear scattering and forces, nuclear reactions, and models.

461 (6461) Quantum Mechanics I (3)

Prerequisite: Physics 331(4331). A study of the Schroedinger wave equation, operators and matrices, perturbation theory, collision, and scattering problems.

463 (6463) Quantum Mechanics II (3)

Prerequisite: Physics 461(6461). Continuation of Physics 461(6461) to include such topics as Pauli spin-operator theory, classification of atomic states, introduction to field quantization. Dirac electron theory.

465 (6465) Quantum Mechanics III (3)

Prerequisites: Physics 461(6461) and 463(6463). Topics chosen from such fields as: relativistic quantum mechanics, potential scattering, formal collision theory, group theoretical methods in quantum mechanics, electrodynamics.

467 (6467) Quantum Statistical Mechanics (3)

Prerequisites: Physics 413(6413) and 463(6463). Techniques for calculation of the partition function with examples drawn from interacting Fermi gas, interacting Bose gas, superconductors, and similar sources.

471 (6471) Atomic and Molecular Structure (3)

Prerequisite: Physics 461(6461). Applications of quantum mechanics to the structure of atoms and molecules; perturbation and variational calculations, self-consistent fields, multiplets, angular momenta, Thomas-Fermi model, diatomic molecules, spectral intensities.

473 (6473) Atomic Collision Theory (3)

Prerequisite: Physics 471(6471) or 463(6463). Basic quantum mechanical concepts involved in atomic scattering theory. Topics include: elastic and inelastic collisions of electrons and ions with neutral atoms and molecules; collisions between heavy particles; curve crossing; photo-processes; and Coulomb wave functions.

475 (6475) Molecular Spectroscopy (3)

Prerequisite: Physics 461(6461). Introduction to classical and quantum treatment of the vibrational and rotational structure and spectra of diatomic, linear triatomic, and simple polyatomic molecules: vibrational-rotational interactions, point group symmetry in simple infrared spectra analysis, calculations of vibrational frequencies, and normal coordinates of polyatomic atoms.

481 (6481) Physics of the Solid State (3)

Prerequisite: Physics 461(6461). Crystal symmetry, point and space groups, lattice vibrations, phonons, one-electron model, Hartree-Fock approximation, elementary energy band theory, transport properties, the Boltzmann equation, introduction to superconductivity, semiconductors, and magnetism.

483 (6483) Selected Topics of the Solid State (3)

Prerequisite: Physics 481(6481). Introduction to many-body perturbation theory, the use of Feynman diagrams. Green's functions, treatment of the electron-electron, phonon-phonon, and electron-phonon interactions, theory of magnetism, and theory of superconductivity.

485 (6485) Advanced Quantum Mechanics (3)

Prerequisite: Physics 465(6465). Selected topics such as many-body problems field theory, S matrix theory and symmetries.

490 (6490) Research (variable hours)

Prerequisites: Must have a faculty mentor and approval of the department chair. Investigations of an advanced nature leading to the preparation of a thesis or dissertation.

493 (6493) Oral Examination

After completion of all other program requirements, oral examinations for on campus students may be processed during the first two weeks of an academic session or at any appropriate time for off-campus students upon enrollment in Physics 493(6493) and payment of an oral examination fee. All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three semester hours for resident students.

495 (6495) Continuous Registration

Doctoral candidates who have completed all requirements for the degree except the dissertation, and are away from the campus, must continue to enroll for at least one hour of credit each registration period until the degree is completed. Failure to do so may invalidate the candidacy. Billing will be automatic as will registration upon payment.

Department of Political Science

Faculty

Lana Stein, Professor*, Chairperson
Ph.D., Michigan State University

Werner F. Grunbaum, Professor Emeritus
Ph.D., University of Chicago

Kenneth F. Johnson, Professor Emeritus
Ph.D., University of California-Los Angeles

E. Terrence Jones, Professor*
Ph.D., Georgetown University

Dennis R. Judd, Professor Emeritus
Ph.D., University of Illinois

Carol W. Kohfeld, Professor Emerita
Ph.D., Washington University

Eugene J. Meehan, Curators' Professor Emeritus
Ph.D., London School of Economics

Joyce M. Mushaben, Professor*, Director, Institute of Women's and Gender Studies
Ph.D., Indiana University

David B. Robertson, Professor*
Ph.D., Indiana University

J. Martin Rochester, Distinguished Teaching Professor*
Ph.D., Syracuse University

Lyman T. Sargent, Professor*
Ph.D., University of Minnesota

G. Eduardo Silva, Professor*, Graduate Director
Ph.D., University of California-San Diego

J. Fred Springer, Professor Emeritus
Ph.D., University of California-Davis

Andrew Glassberg, Associate Professor*
Ph.D., Yale University

Joel N. Glassman, Associate Professor*, Director, Center for International Studies, Associate Vice Chancellor for Academic Affairs
Ph.D., University of Michigan

Barbara L. Graham, Associate Professor*
Ph.D., Washington University

Jean-Germain Gros, Associate Professor*
Ph.D., University of California-Berkeley

Ruth Iyob, Associate Professor*
Ph.D., University of California-Santa Barbara

Richard L. Pacelle, Jr., Associate Professor*
Ph.D., The Ohio State University

Kenneth P. Thomas, Associate Professor*
Ph.D., University of Chicago

Brady Baybeck, Assistant Professor*
Ph.D., Washington University

David C. Kimball, Assistant Professor*
Ph.D., Ohio State University

Nancy T. Kinney, Assistant Professor*
Ph.D., University of Colorado at Denver

Bryan W. Marshall, Assistant Professor*
Ph.D., Michigan State University

*members of Graduate Faculty

Political Science faculty are nationally known scholars in their respective fields, dedicated to high-quality teaching and education. Department faculty members have received distinctions such as the Presidential Award for Research and Creativity, Chancellor's Award for Research and Creativity, Chancellor's Award for Excellence in Teaching, Governor's Teaching Awards, Burlington Northern Faculty Achievement Award, and Emerson Electric Excellence in Teaching Award. They have received research grants from such prestigious agencies as the John F. Kennedy Library, the Ford Foundation, the MacArthur Foundation, the National Science Foundation, the German Marshall Fund, the United States Department of Education, the Fulbright Program, and the United States Institute for Peace. The faculty has published its research in more than 80 books and 400 articles in scholarly journals and is devoted to using its research findings to improve teaching.

In 1987, the Department of Political Science was designated as a Center of Eminence by the Board of Curators. This makes political science one of only two such programs on the St. Louis campus and ten in the entire University of Missouri system to be so designated. The department was selected because of its excellence in research and teaching.

The Greek word for "idiot" was used in ancient times to refer to one who took no interest in public affairs. In addition to helping students become more knowledgeable about politics and public policy, political science course work provides rich opportunities for students to develop a variety of practical skills--such as information-gathering and processing, analysis, research, decision making and oral and written communication--that are transferable to many career paths and job settings after graduation.

General Information

Degrees and Areas of Concentration

The political science department offers undergraduate work leading to the B.A. degree in political science, B.S. degree in public policy and administration, and, in cooperation with the College of Education, the B.A. in political science with teacher certification and the B.S. in education with an emphasis in social studies. (See College of Education section in this *Bulletin* for details.) Minors in political science are available to students who are majoring in another discipline and who have a special interest in law, government, politics, and public policy.

Principal areas of concentration include urban politics American political processes and behavior, international politics, comparative politics, public policy and administration, public law, and political theory. In many courses, emphasis is placed on the ways in which public policies are developed and administered. In addition to formal course work, internships are available in which the

student can relate classroom learning to practical field experience.

The political science department also offers graduate courses leading to the M.A. and Ph.D. in political science. The M.A. program in political science offers advanced education for those seeking careers in government, business, secondary education, community, or not-for-profit agencies. The principal foci of the 33-hour program are public administration and public policy analysis/evaluation in the local, state, national, and international areas. The flexibility of the general master's degree allows for individualized programs in urban politics, prelegal education, American national government, comparative politics, international relations, and political theory.

The Ph.D. in political science emphasizes the study of theoretic, analytic, and substantive approaches to public policy. Core courses include research methods, normative and empirical theory, and policy processes and institutions. Doctoral candidates, in consultation with the faculty, develop a policy concentration, which can be interdisciplinary. Internships, when appropriate, may be a component. All successful doctoral candidates must complete a dissertation, which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so those employed outside the university can participate in the programs on a part-time basis. Financial assistance is available to full-time students.

Special Interdisciplinary Degree

The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the College of Business Administration in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see that section in this *Bulletin*.

Cooperative Programs

Political science students may also study overseas, or obtain a certificate in international studies, European studies, African Studies, East Asian studies, Latin American studies, women's studies, or writing, in conjunction with their political science major. See Certificate Programs in this *Bulletin* and consult with the Center for International Studies.

Research in political science is encouraged for students at all levels. Assistance is available at UM-St. Louis' Public Policy Research Centers, the Center for International Studies, and the Office of Computing. The department's membership in the Interuniversity Consortium for Political and Social Research provides access to a wide range of survey data on local-state-national, comparative, and international politics. In addition, extensive research opportunities are available within the metropolitan St.

Louis area. Financial assistance is available for qualified students; details can be obtained from the department office.

Undergraduate Studies

General Education Requirements

Majors must satisfy the university and college general education requirements. Political science courses may be used to satisfy the social sciences requirement. The foreign language requirement for the B.A. degree may be satisfied in any language.

Departmental Honors

The department awards honors to students having a grade point average (GPA) of 3.2 in the major, an overall GPA of 3.2 (except in extraordinary circumstances), and successfully completed an honors thesis, project, or report.

Degree Requirements

Bachelor of Arts in Political Science

All majors must complete at least 36, but not more than 45, hours of political science. All students are required to take the following core curriculum:

Poli Sci

11(1100), Introduction to American Politics
12(1500), Introduction to Comparative Politics
200(2000), Political Analysis
395(3950), Senior Seminar in Political Science

Majors are urged to take PolSci 11(1100), 12(1500), and 200(2000) as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent course work. Because the seminar topics in PolSci 395(3950) change from semester to semester, the course can be repeated as an elective. All majors must take at least one Seminar in Political Science.

Students also must complete at least one course in four of the following political science areas:

Public Law (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 20-29).

American Politics (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 30-39).

Public Policy and Administration (chosen from among political science courses at the 100, 200 or 300 level whose last two digits are 40-49).

Comparative Politics (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 50-59).

Political Theory (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 60-69).

International Relations (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 80-89).

Methodology (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 00-09).

At least 18 hours of political science course work must be at the 200 or 300 level, not including PolSci 200(2000). B.A. degree students may take a maximum of 3 hours of political science on a satisfactory/ unsatisfactory basis; this can include any course except the required courses in the core curriculum.

Note: As early as possible, students should determine their educational objectives and consult with an adviser regarding a plan of study. *Those students who are uncertain of their future plans are urged to include in their 36-45 hours of political science a broad set of courses in American politics, public policy and administration, public law, comparative politics, international politics, political theory, and methodology.* In addition to this general course of study in political science, the department offers B.A. degree students several specialized programs of study in political science geared to various student academic and career interests.

Graduate School Preparation This program is designed for students planning to pursue graduate studies in political science, particularly the Ph.D. degree, with the aim of a career as either an academic or practitioner (working as a researcher, policy analyst, or in some other capacity calling for advanced knowledge and skills). In addition to the core curriculum and common requirements for all political science majors, students are advised to (1) take as many political science courses at the 200 and 300 level as possible in a variety of areas (public law, American politics, comparative and international politics, etc.), (2) complete a departmental honors project based on independent research and writing in PolSci 390(3900), Special Readings, and (3) give special consideration to courses in normative political theory (such as PolSci 262(2620), Modern Political Thought) and research methods (such as PolSci 401(6401), Introduction to Policy Research, which is a graduate course open to undergraduates with Graduate School approval). Students are also encouraged to take course work outside the department in microeconomics, macroeconomics, and statistics.

Legal Studies This is an ideal program of study for double majors in political science and criminal justice or for any student interested in law school and a career in the law. In addition to the core curriculum and common requirements for all political science majors, students are advised to take PolSci 20(1200), Foundations of Law: An Introduction to Legal Studies, and at least four of the following political science courses:

129(2290), Women and the Law
165(2650), American Political Thought
190(2900), Studies in Political Science (when appropriate)
226(2260), Law and the Individual
228(2280), Judicial Politics and Policy
295(3940), Public Affairs Internship (when appropriate)
320(3200), Constitutional Law
321(3210), Civil Liberties
326(3260), Judicial Decision-making
329(3290), Studies in Public Law
385(4850), International Law
390(3900), Special Readings (when appropriate)

Students are also advised to take political science course work that gives them a strong background in American political institutions and processes. Those students considering practicing law in the international arena should take course work in comparative and international politics. Political science course work may be supplemented by course work in criminal justice and criminology.

American Politics Designed for those students interested in careers in communications, education, business, social work, political consulting, and other fields requiring knowledge of American urban, state, and national politics and institutions. Education majors planning to teach in the social studies field, communications majors planning on a career in journalism, or business majors thinking about working in corporate relations may especially wish to consider a double major in political science with a focus in this area. In addition to the core curriculum and common requirements for all majors, students are advised to take at least five of the following political science courses:

99(1990), The City
130(2300), State Politics
135(2350), Introduction to Urban Politics
165(2650), American Political Thought
190(2900), Studies in Political Science (when appropriate)
228(2280), Judicial Politics and Policy
230(3300), The American Presidency
231(3331), Congressional Politics
232(2320), African Americans and the Political System
233(3330), Introduction to Political Behavior
234(3340), Politics and the Media
235(3350), Political Parties and Elections
238(2380), Women in U.S. politics
242(2420), Introduction to Public Policy
248(3480), Environmental Politics
282(2820), United States Foreign Policy
295(3940), Public Affairs Internship (when appropriate)
332(3390), Studies in American Politics
333(3370), Mock Constitutional Convention

390(3900), Special Readings (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 PolSci 242(2420), Introduction to Public Policy, and at least four of the following political science courses:

- 140(2400), Public Administration
- 190(2900), Studies in Political Science (when appropriate)
- 240(3400), Bureaucratic Politics
- 241(3410), The Politics of Business Regulation
- 245(3450), Urban Administration
- 246(3460), The Politics of Poverty and Welfare
- 248(3480), Environmental Politics
- 257(3570), Gender, Race, and Public Policy
- 282(2820), United States Foreign Policy
- 295(3940), Public Affairs Internship (when appropriate)
- 308(4080), Program Evaluation
- 340(3400), Organizational Politics
- 342(3420), Public Personnel Management
- 343(3439), Studies in Policy Formation
- 344(3440), Public Budgeting
- 346(4470), Urban Planning and Politics
- 349(3490) Studies in Public Administration
- 351(4510), Comparative Public Policy and Administration
- 390(3900), Special Readings (when appropriate)
- 394(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 PolSci 180(1800), World Politics, or PolSci 150(2500), Comparing Different Worlds, and at least four of the following political science courses (some of which are international politics courses that focus on conflict and cooperation between countries, and some of which are comparative politics courses that focus on political, economic, and social change within countries):

- 80(1820), Global Issues
- 85(1850), Global Ecology
- 155(2550), East Asian Politics
- 160(1600), Contemporary Political Ideologies
- 190(2900), Studies in Political Science (when appropriate)
- 251(2510), Comparative Politics of Europe
- 253(2530), Political Systems of South America
- 254(2540), Political Systems of Mexico, Central America, and the Caribbean
- 256(2560), Russia and the New Republics
- 257(3570), Gender, Race, and Public Policy
- 258(2580), African Politics
- 269(3690), The Marxist Heritage
- 280(2800), Model United Nations
- 282(2820), United States Foreign Policy
- 283(3830), International Political Economy
- 284(3840), European International Relations
- 285(3850), International Organizations and Global Problem-Solving
- 289(2520), Middle Eastern Politics
- 295(3940), Public Affairs Internship (when appropriate)
- 351(4510), Comparative Public Policy and Administration
- 355(4550), Democratization in Comparative Perspective
- 359(3590), Studies in Comparative Politics
- 385(4850), International Law
- 386(3860), Studies in War and Peace
- 388(3890), Studies in International Relations
- 390(3900), Special Readings (when appropriate)

Students interested in working for the U.S. Foreign Service, American-based multinational companies, and nonprofit organizations should also take course work that familiarizes them with the American political system and how public policy is made. Students should explore the various interdisciplinary area studies and international studies certificate programs offered through the Center for International Studies.

Bachelor of Science in Public Policy and Administration

The BSPA degree has two emphasis areas. The first is a public administration track, which emphasizes management in both the public and nonprofit sectors; it may produce a terminal degree or be a precursor to graduate training. The second is a public policy track in which a student may focus on a particular policy area and also acquire specialized analytic training and research skills, in preparation for relevant entry-level jobs in the

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

11(1100), Introduction to American Politics
 12(1500), Introduction to Comparative Politics
 140(2400), Public Administration
 200(2000), Political Analysis
 242(2420), Introduction to Public Policy
 295(3940), Public Affairs Internship
 395(3950), Senior Seminar in Political Science
 Econ 51(1001), Principles of Microeconomics
 Econ 52(1002), Principles of Macroeconomics
 CCJ 220(2220), Statistical Analysis in Criminology and Criminal Justice or
 Sociology 220(3220), Sociological Statistics or
 Econ 265(3100), Economic Statistics

In addition, students must provide a demonstration of computer proficiency through one of the following:
 BA 103(1800), Computers and Information Systems, extension courses, or other study approved by the BSPA coordinator.

BSPA students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis, except for the following (which may not be taken on a satisfactory/unsatisfactory basis): PolSci 11(1100), 12(1500), 140(2400), 200(2000), 242(2420), 295(3940), and 395(3950).

Public Administration Emphasis Area

In addition to the core curriculum requirements for all BSPA majors, students in the public administration emphasis-area are required to complete the following courses:

PolSci 342(3420), Public Personnel Management
 PolSci 344(3440), Public Budgeting
 BA 140(2400), Fundamentals of Financial Accounting

Students in the public administration emphasis area also must take two of the political science courses listed under policy and institutions courses below, as well as 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:

45(1450), Introduction to Labor Studies
 130(2300), State Politics
 135(2350), Introduction to Urban Politics
 228(2280), Judicial Politics and Policy
 230(3300), The American Presidency
 231(3331), Congressional Politics
 240(3400), Bureaucratic Politics
 243(3430), Union Leadership and Administration
 245(3450), Urban Administration
 246(3460), The Politics of Poverty and Welfare
 248(3480), Environmental Politics
 340(3400), Organizational Politics
 343(3439), Studies in Policy Formation
 346(4470), Urban Planning and Politics
 351(4510), Comparative Public Policy and Administration
 394(4940), Leadership and Management in Nonprofit Organizations

Students will adopt a policy concentration of at least 15 credit hours. Possible areas of specialization include, but are not limited to, environmental policy, government and business, society and the legal system, urban policy, labor studies, health care, human services, and nonprofit service provision. In fulfilling the concentration requirement, students, in consultation with the BSPA coordinator, will select courses from related disciplines in addition to taking two more political science courses related to the policy area beyond the four political science courses already required.

Note: Students considering the B.S. in public policy and administration should see a political science adviser as early as possible to plan their program.

Requirements for the Minors

A general minor in political science can be arranged, as well as specialized minors in eight different subfields of the discipline. Interested students should see a faculty adviser to plan a coherent program of study as a minor field.

Students must achieve a cumulative 2.0 GPA in the political science courses chosen to qualify for the minor. Students may count no more than 3 hours in political science taken on a satisfactory/unsatisfactory basis toward the minor. Students taking an internship (Political Science 295(3940)) may count no more than three hours of the internship toward the minor.

Minor in Political Science, General

Fifteen hours, chosen from among all political science courses.

Minor in American Politics

Fifteen hours, chosen from the following political science courses:

- 11(1100), Introduction to American Politics
- 130(2300), State Politics
- 135(2350), Introduction to Urban Politics
- 165(2650), American Political Thought
- 228(2280), Judicial Politics and Policy
- 230(3300), The American Presidency
- 231(3331), Congressional Politics
- 232(2320), African Americans and the Political System
- 233(3330), Introduction to Political Behavior
- 234(3340), Politics and the Media
- 235(3350), Political Parties and Elections
- 238(2380), Women in U.S. Politics
- 240(3400), Bureaucratic Politics
- 241(3410), The Politics of Business Regulation
- 242(2420), Introduction to Public Policy
- 282(2820), United States Foreign Policy
- 295(3940), Public Affairs Internship (when appropriate)
- 332(3390), Studies in American Politics
- 333(3370), Mock Constitutional Convention
- 390(3900), Special Readings (when appropriate)

Minor in Comparative Politics

Political Science 12(1500), Introduction to Comparative Politics, plus 12 hours from the following political science courses:

- 150(2500), Comparing Different Worlds
- 155(2550), East Asian Politics
- 251(2510), Comparative Politics of Europe
- 253(2530), Political Systems of South America
- 254(2540), Political Systems of Mexico, Central America, and the Caribbean
- 256(2560), Russia and the New Republics
- 257(3570), Gender, Race, and Public Policy
- 258(2580), African Politics
- 351(4510), Comparative Public Policy Administration
- 355(4550), Democratization in Comparative Perspective
- 359(3590), Studies in Comparative Politics
- 390(3900), Special Readings (when appropriate)

Minor in International Relations

Fifteen hours, chosen from the following political science courses:

- 80(1820), Global Issues
- 85(1850), Global Ecology
- 180(1800), World Politics
- 282(2820), United States Foreign Policy
- 283(3830), International Political Economy
- 284(3840), European International Relations
- 285(3850), International Organizations and Global Problem-Solving
- 289(2520), Middle Eastern Politics
- 295(3940), Public Affairs Internship (when appropriate)
- 385(4850), International Law
- 386(3860), Studies in War and Peace
- 388(3890), Studies in International Relations

390(3900), Special Readings (when appropriate)

Minor in Political Theory

Fifteen hours, chosen from the following political science courses:

- 160(1600), Contemporary Political Ideologies
- 165(2650), American Political Thought
- 261(2610), Ancient and Medieval Political Thought
- 262(2620), Modern Political Thought
- 268(3680), Feminist Political Theory
- 269(3690), The Marxist Heritage
- 368(3690), Studies in Political Theory
- 390(3900), Special Readings (when appropriate)

Minor in Public Administration

Political Science 140(2400), Public Administration, plus 12 hours chosen from the following political science courses:

- 240(3400), Bureaucratic Politics
- 241(3410), Politics of Business Regulation
- 242(2420), Introduction to Public Policy
- 245(3450), Urban Administration
- 295(3940), Public Affairs Internship (when appropriate)
- 308(4080), Program Evaluation
- 340(3400), Organizational Politics
- 342(3420), Public Personnel Management
- 343(3439), Studies in Policy Formation
- 344(3440), Public Budgeting
- 346(4470), Urban Planning and Politics
- 349(3490), Studies in Public Administration
- 351(4510), Comparative Public Policy and Administration
- 390(3900), Special Readings (when appropriate)

Minor in Public Law

Fifteen hours, chosen from the following political science courses:

- 20(1200), Foundations of Law: An Introduction to Legal Studies
- 129(2290), Women and the Law
- 226(2260), Law and the Individual
- 228(2280), Judicial Politics and Policy
- 320(3200), Constitutional Law
- 321(3210), Civil Liberties
- 326(3260), Judicial Decision-Making
- 329(3290), Studies in Public Law
- 385(4850), International Law
- 390(3900), Special Readings (when appropriate)

Minor in Public Policy

Political Science 242(2420), Introduction to Public Policy, plus 12 hours chosen from the following political science courses:

- 130(2300), State Politics
- 135(2350), Introduction to Urban Politics
- 140(2400), Public Administration
- 230(3300), The American Presidency
- 241(3410), The Politics of Business Regulation
- 245(3450), Urban Administration
- 246(3460), The Politics of Poverty and Welfare

248(3480), Environmental Politics
257(3570), Gender, Race, and Public Policy
295(3940), Public Affairs Internship (when appropriate)
308(4080), Program Evaluation
344(3440), Public Budgeting
346(4470), Urban Planning and Politics
351(4510), Comparative Public Policy and Administration
390(3900), Special Readings (when appropriate)

Minor in Urban Politics

Political Science 135(2350), Introduction to Urban Politics, plus 12 hours chosen from the following political science courses:

232(2320), African-Americans and the Political System
245(3450), Urban Administration
246(3460), The Politics of Poverty and Welfare
295(3940), Public Affairs Internship (when appropriate)
346(4470), Urban Planning and Politics
390(3900), Special Readings (when appropriate)

Bachelor of Arts with Teacher Certification

For information, refer to the College of Education section in this *Bulletin*.

Bachelor of Science in Education: Emphasis in Social Studies

The Political Science requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this *Bulletin*.

Graduate Studies

Master of Arts in Political Science

Admission Requirements For admission, a student should have a baccalaureate degree with a minimum grade point average of 2.75 and an undergraduate background in the social sciences. The GRE is required, and scores should be submitted at the time of application. Two letters of recommendation are also requested for each student applying to the program. Students who do not meet these requirements may be admitted upon approval of the department and the dean of the Graduate School. Application materials may be obtained from and should be returned to the office of the director of admissions.

Deadlines are July 1 for the fall semester; December 1 for the winter semester; and May 1 for the summer term.

Degree Requirements

Beyond the general requirements of the Graduate School, the department requires a minimum of 27 semester hours of course work, of which 18 hours must be at the 400 level and 12 hours must be in core courses in political science, including:

401(6401), Introduction to Policy Research
and three of the following political science courses:

410(6410), Introduction to Policy Analysis
420(6420), Proseminar in Public Law
430(6430), Proseminar in American Politics
440(6440), Proseminar in Public Policy Administration
450(6450), Proseminar in Comparative Politics
460(6460), Proseminar in Political Theory
470(6470) Proseminar in Urban Politics
480(6480) Proseminar in International Relations

Students can plan their degree program to reflect the following six emphasis areas:

- American Politics
- Comparative Politics
- International Politics
- Political Process and Behavior
- Public Administration and Public Policy
- Urban and Regional Politics

Students must also select one of the following exit projects: a six-hour thesis, a six-hour internship, or six hours of additional course work and an approved paper. Students will have a mid-program review at the end of 12-15 hours of course work, at which time they will discuss their academic performance and program with a faculty committee and determine the most appropriate exit project. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project.

Ph.D. in Political Science

The doctoral program emphasizes theoretical, analytic, and substantive approaches to public policy analysis and administration. Students are provided an opportunity to link core skills in policy analysis and political science with substantive emphasis in specific policy areas. The program is designed to prepare pre-career and mid-career students for advanced positions in policy research and administration, as well as for academic research and teaching.

Admission Requirements Admission and financial aid decisions are made on the basis of past academic record, intellectual ability, and career commitment and performance. Applications are accepted from students who have either baccalaureate or master's degrees. Past graduate work will be credited toward degree requirements as appropriate. Applicants must submit a) complete academic transcripts, b) three letters of recommendation, c) aptitude tests of the GRE and d) a statement of objectives for the course of study. Application materials may be obtained from and should be returned to the office of the director of admissions. Applications for fall semester should be submitted by February 15 and for winter semester by October 15.

Graduate Assistantships Stipends for teaching and research assistantships (nine month/20 hours per week) are

awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

Degree Requirements

The department requires 60 credit hours beyond the baccalaureate degree for completion of the Ph.D. To ensure sufficient background for doctoral-level policy courses, students must demonstrate appropriate competence in computing and intermediate economics during their course of study. Course requirements are as follows:

Core courses (21 credit hours)

21 credit hours will be required in the areas of research methods, normative and empirical theory, and policy process and institutions. Contact the department for specific courses.

Additional Requirements (12 credit hours)

In addition, students will select a minimum of 12 credit hours in public policy, theory, or process.

Policy Concentration (15 credit hours)

Students, in consultation with the program director, will develop expertise in a substantive policy area. Policy concentrations (many interdisciplinary) include:

- American National Policy
- Urban Politics and Planning
- Comparative/International Policy
- Policy Analysis and Research
- Social Welfare

Internship (6 credit hours) optional.

The Ph.D. intern program offers an opportunity to gain first-hand experience in select research and administrative positions.

General Examination and Dissertation

Upon completion of course work, students are advanced to candidacy by successfully completing two general examinations, the first covering the fields of public policy institutions, processes, and analysis, and the second covering the student's chosen subfield and area of policy concentration. The degree is awarded upon completion and defense of the Ph.D. dissertation.

Career Outlook

Bachelor of Arts, Bachelor of Science, and Master of Arts in Political Science

Political science graduates have done well in obtaining appropriate employment and in pursuing graduate education. Majors develop communications and decision-making skills, learn to analyze complex policy issues, both domestic and international in scope, and have a thorough understanding of government and politics. Political science is a particularly good undergraduate major for pre-law students. Many other majors pursue graduate education in

business, education, public administration, public policy administration, journalism, public relations, non-profit organizations, and many other fields. Guides to careers in political science are available in the department office.

Ph.D. in Political Science

The Ph.D. in political science prepares students for three career areas: 1) government leadership and management positions at the local, state, and federal levels (both for new employees and in-service employees); 2) careers in the private sector, particularly positions in public affairs, policy research, and governmental relations departments of corporations, as well as consulting firms and nonprofit organizations; and 3) research and teaching careers in academic institutions.

Requests for further information about the M.A. or Ph.D. program should be sent to the Director of Graduate Studies, Department of Political Science, University of Missouri-St. Louis, 8001 Natural Bridge Road, 347 SSB, St. Louis, MO 63121-4499.

Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 11(1100), 12(1500), 20(1200), 80(1820), 85(1850), 99(1990), 129(2290), 130(2300), 135(2350), 140(2400), 150(2500), 155(2550), 160(1600), 165(2650), 180(1800), 190(2900), 200(2000), 226(2260), 228(2280), 230(3300), 231(3331), 232(2320), 233(3330), 234(3340), 235(3350), 238(2380), 240(3400), 241(3410), 242(2420), 243(3430), 245(3450), 246(3460), 248(3480), 251(2510), 253(2530), 254(2540), 256(2560), 257(3570), 258(2580), 259(3590), 261(2610), 262(2620), 268(3680), 269(3690), * 280(2800), 282(2820), 283(3830), 284(3840), 285(3850), 289(2520), 306(4060), 308(4080), 318(4180), 320(3200), 321(3210), 322(3220), 326(3260), 329(3290), 332(3390), 333(3370), 340(3400), 341(3470), 342(3420), 343(3439), 344(3440), 346(4460), 347(4470), 349(3490), 351(4510), 355(4550), 359(3590), 368(3690), 385(4850), 386(3860), 388(3890), 390(3900), 394(4940), 395(3950).

* Course fulfills the Humanities or Social Sciences breadth of study requirement. Course fulfills Cultural Diversity requirement.

The following courses satisfy the state requirement: PolSci 11(1100), 129(2290), 130(2300), 135(2350), 140(2400), 226(2260), 228, 230(3300), 231(3331), 232(2320), 233((3330), 235(3350), 238, 240(3400) 245(3450) 321((3210), 333(3370), 346(4470)

11(1100) Introduction to American Politics (3) [V, SS, ST]

Introduction to basic concepts of government and politics with special reference to the United States, but including comparative material from other systems.

12(1500) Introduction to Comparative Politics (3) [MI,V, SS]

This course introduces students to the world of comparative systems of governance. It examines similarities and differences in the basic political structures, institutions and governmental processes in advanced industrial and industrializing countries. It also provides an understanding of fundamental comparative methods based on individual country or case studies. Particular attention is paid to ideologies, political parties, legislatures, and public policy.

15(1550) Women and 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.

20(1200) Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]

(Same as CCJ 20(1200) and Interdisciplinary 20(1200). As a broad liberal arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

45(1450) Introduction to Labor Studies (3) [MI, SS]

(Same as Interdisciplinary 45(1450). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and the media.

80(1820) Global Issues (3) [MI, SS]

A freshman- and sophomore-level course designed to introduce students to a range of global concerns, including population, hunger, trade, energy, and the environment. The worldwide implications of these and other problems will be considered, as well as their effects on local communities such as St. Louis.

85(1850) Global Ecology (3) [V, SS]

Prerequisite: Biology 001(1012). Must be taken concurrently with Biology 130(1081) for three hours biology credit and three hours of political science credit. A course team-taught by the Biology and Political Science departments, aimed particularly at elementary education majors. Combines natural science and social science perspectives in taking a global view of a variety of environmental concerns, such as air and water pollution, climate change, conservation of nonrenewable resources, and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national, and international levels. Features labs and field trips in addition to lecture and discussion. Three hours of lecture, one hour and fifteen minutes discussion, and three and one-half hours laboratory per week.

99(1990) The City (3) [MI, V, SS]

Same as CCJ 99, Sociology 99(1999), and Interdisciplinary 99(1990). An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and Psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

129(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.

130(2300) State Politics (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. An examination of contemporary state politics in the United States; social, economic, and political determinants of policies; federal-state-local relations; elections, interest groups, and participation; executive, legislative, and judicial institutions and policies, and their impact

135(2350) Introduction to Urban Politics (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Examination of structure and process of politics in the urban community, with emphasis on their relationships to community power structures

140(2400) Public Administration (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process.

150(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.

155(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.

160(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.

165(2650) American Political Thought (3)

History of political thought in the United States from colonial times to the present.

180(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.

190(2900) Studies in Political Science (3)

Selected topics in political science.

200(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.

209(3090) American Government for the Secondary Classroom (3)

(Same as Sec Ed. 209(3290) Prerequisites: Secondary Education 213(3213) and Political Science 11(1100), Graduate standing or consent of instructor. Adapts the themes and subject matter of American government to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American government, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either History/Sec Ed 257(3257) or 258(3258) or Political Science/Sec. Ed. 209(3209) must be taken the same semester as History/Sec Ed 255(3255) except with special consent of the Social Studies Coordinator. Can be counted towards the Political Science major requirement, but not the American Politics subgroup. Counts towards Social Studies Certification.

226(2260) Law and the Individual (3) [ST]

(Same as CCJ 226(2226). Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea-bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policymaking and dispute resolution.

228(2280) Judicial Politics and Policy (3) [ST]

Prerequisite: PolSci 11(1100) or 20(1200), or consent of instructor. This course is an examination of the American state and federal legal systems. Topics examined in this course include an analysis of the structure, organization and function of courts. Emphasis will be placed on the role of juries, judges, attorneys, litigants, and interest groups in the judicial system. The objective of the course is to evaluate courts as political institutions and analyze the policy-making role of judges.

230(3300) The American Presidency (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Study of the constitutional, political, legislative, and administrative roles played by the American chief executive in the development of public policy.

231(3331) Congressional Politics (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. An examination of the Congress of the United States, its history and evolution, its contemporary politics, and its role in the national policy-making process. Topics include candidate recruitment, campaigns and elections, representation, committees, legislative leadership, roles and norms, voting alignments, lobbyists and interest groups, oversight of administration, and House-Senate comparisons. The role of Congress in foreign policy, economic policy, and social-welfare policy will be examined.

232(2320) African Americans and the Political System (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Examination of the status of African Americans in the context of the American political system. The course will focus on a number of issues, including: attitudes of various publics toward racial concerns; nature of problems in specific policy areas (e.g., unemployment, school desegregation, housing, poverty); representation of African Americans in governmental institutions and the private sector; and the role of African American leadership and civil rights groups in the political process.

233(3330) Introduction to Political Behavior (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. An introduction to political behavior employing perspectives from both political psychology and political sociology. Subjects include political socialization, the character of public opinion, citizen participation, group dynamics, the social determination of reality, and the underlying bases of leadership and authority.

234(3340) Politics and the Media (3)

Prerequisite: PolSci 11(1100) or consent of instructor. An analysis of the role the media play in shaping American political life. The first part of the course examines the organizational structures, the economic and psychic incentives, and the social and professional norms that define how television and newspapers report news about public affairs. The second part then considers the nature of a mass-communications society by looking at how reality is defined, the susceptibility of mass publics to persuasion and propaganda, the peculiar form of media election campaigns, and the manner in which the media link changes the basic character of a citizenry.

235(3350) Political Parties and Elections (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. An examination of the part played by parties and elections in American politics. Topics include the historical development of the party system, the organization and management of political parties and campaigns, contemporary changes in the nature of electoral politics, and the effects of elections on public policy.

238(2380) Women in U.S. Politics (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. This course focuses on the relationship between gender and organized politics in the United States. Topics to be addressed include the historical development of women's activism in politics, women as political candidates and elected officials, women's organizations in American politics, women and public policy, women's rights and issues, and women and political leadership. Throughout the class, emphasis will be placed not only on examining the role of women in politics, but also on understanding the role of gender in the construction and evaluation of political institutions, practices and public policies in the United States.

240(3400) Bureaucratic Politics (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Examination of the policy-making process within public organizations and the forces influencing the making of bureaucratic policy. Study of the role of the bureaucracy as one of several "actors" in the larger policy process.

241(3410) Politics of Business Regulation (3)

Prerequisite: PolSci 11(1100) or consent of instructor. This course will examine the role of governmental decision-making processes in regulatory policy, including congressional politics, presidential initiatives, administrative rulemaking, and society wide constraints. The impact of government regulation and alternative means for accomplishing regulatory goals (e.g., mandatory standards or incentive systems) will also be considered. 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.

242(2420) Introduction to Public Policy (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Study of differing approaches to understanding the public policy process. Course surveys the application of social science to public issues and problems.

243(3430) Union Leadership and Administration (3)

Prerequisite: Consent of instructor. This course will focus on the roles and challenges of union leadership in a changing environment. Topics will include the union leader's roles as representative, organizer and educator as well as administrative responsibilities within the union and the relationship with enterprise management in both adversarial and participatory situations. Options for leadership style and organizational models will be discussed and explored in both theory and practice. Leaders will develop their skills of motivation, speaking, strategic planning and managing complex campaigns and diverse organizations.

245(3450) Urban Administration (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. Study of administrative machinery and practices of metropolitan government, how metropolitan areas organize themselves to provide services, how urban policies are made and implemented, how budgeting and personnel recruitment processes operate, and how these relate to urban policies.

246(3460) The Politics of Poverty and Welfare (3)

Prerequisite: PolSci 11(1100) or consent of instructor. An examination of the structure of income inequality in the U.S. and public policies designed to redistribute wealth and to treat poverty. The history of welfare programs, the growth of the welfare state, and attempts to cut social spending are closely examined.

248(3480) Environmental Politics (3)

Prerequisite: PolSci 11(1100) or consent of instructor. This course examines the process of environmental policy-making and key environmental issues. Topics include national and international policies toward air and water pollution, energy use, solid and toxic waste disposal,

global warming, overpopulation, and wilderness and wildlife conservation.

251(2510) Comparative Politics of Europe (3)

Prerequisite: PolSci 12(1500) or consent of instructor. Introduction to the major political systems of Europe. The course will emphasize political culture, political parties, interest groups, and political behavior. It will also focus on political institutions and policy making. While individual countries will be examined separately, the course will also emphasize comparison between systems.

253(2530) Political Systems of South America (3) [CD]

Prerequisite: PolSci 12(1500) or consent of instructor. An introduction to the study of the political systems of South America. Examination of the cultural context that has shaped the political, economic, and social development of states in the region.

254(2540) Political Systems of Mexico, Central America, and the Caribbean (3) [CD]

Prerequisite: PolSci 12(1500) or consent of instructor. An introduction to the study of the political systems of Mexico, Central America, and the Caribbean. Examination of the cultural context that has shaped the political, economic, and social development of these countries.

256(2560) Russia and the New Republics (3)

Prerequisite: PolSci 12(1500) or consent of instructor. Examination of political-economic conditions responsible for the creation, collapse, and reconstruction of the former Soviet Union, with emphasis on new elites and interest groups, problems of democratic transition, ethnic conflict and socio-economic reform.

257(3570) Gender, Race and Public Policy (3)

Prerequisite: Pol Sci 11(1100), or 12(1500), or consent of instructor. Raises the question as to whether "more women in politics," stemming from diverse economic, racial, ethnic backgrounds and age groups, will necessarily result in better policies for women and men. Compares gendered and racialized impacts of a wide array of public policies (in the areas of education, employment, health care, welfare, and reproductive technologies) across a broad sample of advanced industrial societies. Analyzes the "empowerment" potential of new equality policies being generated at the international and supranational levels (e.g., in the UN and the European Union).

258(2580) African Politics (3) [CD]

Prerequisite: PolSci 12(1500) or consent of instructor. An introduction to the nature of societies, governments, and international relations in Africa. The course deals with forms of governance on the continent, regional groupings of states, and persistent conflicts within and among states. Problems of economic underdevelopment, food supplies, health and population trends, and cultural change are analyzed, along with the role of outside major power intervention.

259(3590) Politics, Leadership and the Global Gender Gap (3)

Prerequisite: PolSci 12(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.

261(2610) Ancient and Medieval Political Thought (3)
 Study of political thought from Plato to Machiavelli.

262(2620) Modern Political Thought (3)
 Study of political thought from Machiavelli to the present.

268(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.

269(3690) The Marxist Heritage (3)
 (Same as Philosophy 269(3369) and Interdisciplinary 269(3690). Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

280(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.

282(2820) United States Foreign Policy (3)
 Prerequisite: PolSci 11(1100), or 12(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.

283(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.

284(3840) European International Relations (3)
 Prerequisite: PolSci 11(1100), or 12(1500) or consent of instructor. European international relations since World War II. Emphasis upon developments from the Cold War to Détente emphasizing such concepts as containment, Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security.

285(3850) International Organizations and Global Problem Solving (3)
 Prerequisite: PolSci 11(1100) or 12(1500), or consent of instructor. Introduction to the study of international organization. The course focuses on relationships between nation-states and "nonstate" actors (e.g., global intergovernmental organizations such as the United Nations, and nongovernmental organizations such as multinational corporations) in world politics and on the role of international institutions in such problem areas as economic development, management of resources, and control of violence across national boundaries.

289(2520) Middle Eastern Politics (3) [CD]
 Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Survey of political movements, governments, and international conflicts in the Middle East. Islam, nationalism, ideologies, and economic systems will be studied. The effects of oil and the military will also be considered.

295(3940) Public Affairs Internship (1-6)
 Prerequisites: Junior standing and consent of instructor. Independent study involving work with an appropriate public or private agency. A maximum of 6 credit hours may be earned.

304(4040) Survey Research Practicum (3)
 (Same as Econ 304 (4140) and Sociology 304(4040). Prerequisites: Junior standing and consent of the instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results.

306(4060) Theory of Decisions and Games (3)
 Prerequisite: Six hours of Philosophy and junior standing, PolSci 401(6401) (or the equivalent) or consent of instructor. (Same as Philosophy 365(4465). A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content.

308(4080) Program Evaluation (3)

Prerequisites: PolSci 11(1100), or 140(2400), and one of the following: BA 250(3300), Sociology 220(3200), Criminology and Criminal Justice 220(2220), or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

318(4180) Social Choice in Political-Economic Systems (3)

Prerequisites: Two courses in Economics, Political Science, or Sociology. A study of the mechanisms of social choice from the standpoint of individuals and institutions maximizing their objectives. This area draws on work done by sociologists, political scientists, and economists.

320(3200) Constitutional Law (3) [ST]

Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. Study of leading American constitutional principles regarding legislative, executive, and judicial power, federalism, the commerce clause, and economic due process as they have evolved through the important decisions of the U.S. Supreme Court.

321(3210) Civil Liberties (3) [ST]

Prerequisite: PolSci 11(1100), or 20(1200), or 320(3200), or consent of instructor. Civil rights in the American constitutional context, emphasizing freedom of religion, freedom of expression, minority discrimination, and the rights of defendants.

322(3220) Labor Law (3)

Prerequisite: Consent of instructor. In this course, participants will examine the role of government in the regulation of labor-management relations in the United States. While the focus of the course will be on federal laws regulating private sector labor relations, parallel issues addressed in the Railway Labor Act and state public sector labor relations law will also be covered. Specific topics include the legal framework for the organization of workers, definition of prohibited or unfair labor practices of employers and unions, legal regulation of the collective bargaining process, regulation of the use of economic weapons in labor disputes, enforcement of collective bargaining agreements and the regulation of internal trade union activities.

326(3260) Judicial Decision-Making (3) [ST]

Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. The purpose of this course is to investigate the processes by which cases get to the U.S. Supreme Court, are accepted or denied, and are decided. The means for investigating this process will be a semester-long simulation. Students will assume the roles of the current justices of the Supreme Court, the Solicitor General, and other litigants in the judicial system.

329(3290) Studies in Public Law (3)

Prerequisite: PolSci 11(1100), or 20(1200), or consent of instructor. Selected topics in public law. May be repeated

332(3390) Studies in American Politics (3)

Prerequisite: PolSci 11(1100) or consent of instructor. Selected topics in American politics. May be repeated.

333(3370) Mock Constitutional Convention (3) [ST]

Prerequisite: PolSci 11(1100) or consent of instructor. An active exercise in political imagination. Students make proposals and bargain with each other to write a constitution for the United States in the 21st century. Students are encouraged to develop new views of what is a desirable society and to gain a richer appreciation of how practical politics are conducted. The course is designed for majors and nonmajors who enjoy political discussion and have a genuine interest in political life.

340(3400) Organizational Politics (3)

Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. Examination of public sector organizations and the range of factors affecting their operation. Specific areas of attention will include theories of organization structure and management, decision theory, organizational/environment interactions, interorganizational relations, and theories of organizational change and development.

341(3470) Collective Bargaining (3)

Prerequisite: Consent of instructor. This course involves a study of collective bargaining processes including contract negotiations, contract administration, and methods for the resolution of bargaining disputes. Both theoretical and applied issues in collective bargaining will be addressed. Specific topics include the economic determination of bargaining power, legal constraints on the bargaining process, negotiations strategies and techniques, and the use of mediation and arbitration in the resolution of bargaining disputes.

342(3420) Public Personnel Management (3)

Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. A study of personnel practices in the public sector, including recruitment, job development, labor relations, and administration of equal employment/affirmative action programs.

343(3439) Studies in Policy Formation (3)

Prerequisite: Consent of instructor. Selected topics in policy formation. May be repeated.

344(3440) Public Budgeting (3)

Prerequisite: PolSci 11(1100) or consent of instructor. Budgeting is the study of "who gets what" and who pays for it. This course examines the administration and politics of federal, state, and local government budgets. Students gain experience in interpreting budget documents and making budget choices, using electronic and other resources.

346(4460) Urban Planning and Politics (3) [ST]

Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. Examination of the political processes of urban areas as they relate to the planning of services and facilities. 6

347(4470) Introduction to Environmental Law and Policy (3)

Prerequisite: Senior or graduate standing or consent of instructor. Survey of the most prominent federal laws governing environmental compliance and pollution control. Examines laws applicable to environmental impact statements, air pollution, water pollution, and hazardous waste. Addresses policy 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.

349(3490) Studies in Public Administration (3)

Prerequisite: PolSci 11(1100), or 140(2400), or consent of instructor. Selected topics in public administration. May be repeated.

351(4510) Comparative Public Policy and Administration (3)

Prerequisite: PolSci 12(1500) or consent of instructor. A comparative study of the characteristics of public administrators, their institutions and environments in Western democratic, developing nations, and communist political systems.

355(4550) Democratization in Comparative Perspective (3)

Prerequisite: PolSci 12(1500) or consent of instructor. This course explores the meaning of democracy and the nature of transitions to democracy, particularly the processes of political liberalization and democratization that follow the breakdown of authoritarian rule. Cases will be drawn from Latin America and other regions.

359(3590) Studies in Comparative Politics (3)

Prerequisite: PolSci 12(1500) or consent of instructor. Selected topics in comparative politics. May be repeated.

368(3690) Studies in Political Theory (3)

Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Selected topics in political theory. May be repeated.

385(4850) International Law (3)

Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Study of the international legal system, including the content and operation of the laws of war and peace, how law is created and enforced with regard to the oceans and other parts of the globe, and the relationship between international law and international politics.

386(3860) Studies in War and Peace (3)

Prerequisites: Junior standing and PolSci 11(1100), or 12(1500), or consent of instructor. Exploration, development, and testing of theories about the causes and consequences of war, peace, and conflict among nations. A broad range of literature on war and peace will be reviewed and applied to crisis situations in the international system.

388(3890) Studies in International Relations (3)

Prerequisite: PolSci 11(1100), or 12(1500), or consent of instructor. Selected topics in international relations. May be repeated.

390(3900) Special Readings (1-10)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

391A(4911) Management Issues in Nonprofit Organizations: Staff Management Issues (1)

Prerequisite: Junior Standing. (Same as Social Work 391A(4911) and Public Policy Administration 391A(4911)). This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; and legal issues that affect these processes.

391B(4912) Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)

Prerequisite: Junior Standing. (Same as Social Work 391B(4912) and Public Policy Administration 391B(4912)). This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

391C(4913) Management Issues in Nonprofit Organizations: Financial Issues (1)

Prerequisite: Junior Standing. (Same as Social Work 391C(4913) and Public Policy Administration 391C(4913)). This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

394(4940) Leadership and Management in Nonprofit Organizations (3)

(Same as Public Policy Administration 394(4940), Social Work 394(4940), and Sociology 308(4940). Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

395(3950) Senior Seminar in Political Science (3)

Prerequisites: Senior standing and consent of instructor. Required of all political science majors in their last year of course work as an integrative capstone experience. Emphasis is on student-faculty interaction in a seminar format designed to engage upper-level students in a critical examination of a broad theme in political science, leading to the production of a major research paper. Topics vary. May be repeated. This course is not available for graduate student credit.

396(4960) American Philanthropy and Nonprofit Resources Development (3)

Prerequisite: Junior standing or consent of instructor. (Same as Social Work 396(4960) and Public Policy Administration 396(4960). This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

400 (6400) Analytic Perspectives in Political Science (3)

An introduction to the graduate study of political science. The course presents a number of analytic approaches to the scientific examination of a wide variety of political phenomena.

401(6401) Introduction to Policy Research (3)

(Same as Public Policy Administration 401(6010). Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

402(6402) Intermediate Techniques in Policy Research (3)

Prerequisites: Graduate standing and PolSci 401(6401). Elementary distribution theory, statistical inference, and an introduction to multiple regression. Emphasis on practical applications.

403(6403) Advanced Techniques in Policy Research (3)

Prerequisites: Graduate standing and PolSci 402(6402). Selected topics in policy research emphasizing forecasting, modeling, and estimation.

404(6404) Multi-Method Research Design (3)

Prerequisites: PolSci 403(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.

405(6405) Directed Readings in Research Methods (1-10)

Independent study through readings, reports, research projects, and conferences.

406(6406) Survey Research Methods (3)

Prerequisites: An introductory statistics course (such as Soc. 220(3220) or consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

410(6410) Introduction to Policy Analysis (3)

(Same as Public Policy Administration 410(6100). Systematic development of a critical/analytic base for dealing with public policy.

411(6411) Seminar in Policy Analysis (3)

Prerequisite: PolSci 410(6410). Evaluation and criticism of contemporary public policies in selected areas.

414(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.

415(6415) Directed Readings and Research in Public Policy (1-10)

(Same as Public Policy Administration 415(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.

416(6416) Family Policy (3)

Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as Social Work 452(6200) and Sociology 452(6200). Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

417(6417) Income and Pension Policy for the Aged (3)

Prerequisite: Graduate standing or consent of instructor. (Same as GER 417(6417) and PPA 417(6170) and SW 417(6417). (MSW student normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

418(6418) Social and Economic Development Policy (3)

Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as SW 462(6250). Examines major trends and alternatives in social and economic development policy in state, national, and international perspectives. Students will develop skills in policy analysis and development.

419(6419) Cases in Public Policy Analysis (3)

(Same as Public Policy Administration 419(6190)) Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning.

420(6420) Proseminar in Public Law (3)

Prerequisite: Graduate standing. Study of judicial systems and processes (judges, courts, litigants, and juries) and evaluation of legal policies (compliance, impact, and deterrence).

421(6421) Seminar in Public Law (3)

Research problems and designs, models and approaches to the study of public law. May be repeated for credit when the subject matter is different.

422(6422) Law, Courts, and Public Policy (3)

Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review, discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The

relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

425(6425) Directed Readings and Research in Public Law (1-10)

Independent study through readings, reports, research projects, and conferences.

430(6430) Proseminar in American Politics (3)

Study of individual and group political behavior, including socialization, participation, consensus formation, representation, and legislative and judicial behavior.

431(6431) Seminar in American Politics (3)

Research problems and design in American political process and behavior. May be repeated for credit when the subject matter is different.

432 (6432) Intergovernmental Relations (3)

Prerequisite: Graduate standing. In the United States, nearly all domestic policy is implemented through an extremely complex intergovernmental system in which the federal government administers grants-in-aid or sets standards for states and localities that administer programs. This course will analyze this policy system by: (1) tracing the origins and evolution of American federalism; (2) analyzing the grants-in-aid system, especially the New Deal; (3) comparing the United States system with federal and unitary policy systems in other industrialized nations.

433(6433) Elections, Public Opinion, and Public Policy (3)

Prerequisite: Graduate standing. This course provides an opportunity for graduate students to examine electoral politics and democratic governance. It includes 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.

435(6435) Directed Readings and Research in American Politics (1-10)

Independent study through readings, reports, research projects, and conferences.

440(6440) Proseminar in Public Administration (3)
(Same as Public Policy Administration 440(6400))
Examination of major approaches to analyzing public policies and their administration. Emphasis is on the effects of administrative organization and procedures on policy decisions and their impacts. Specific topics may include administrative accountability, intergovernmental relations, public-private interaction, implementation processes, bureaucratic expertise, the legal environment of public policy administration, and public service and merit issues.

441(6441) Seminar in Public Administration (3)
Research problems and design in public administration. May be repeated for credit when the subject matter is different.

442(6442) The Policy Process (3)
Prerequisite: Graduate standing. The course will require a major research project using federal documents and other primary sources of information about the United States policy process. Topics will include the sources of public policy; the policy agenda; policy design, legitimation, and implementation.

443(6443) Health Care Policy (3)
Prerequisite: Graduate standing or consent of instructor. (Same as PPA 443(6430), GER 443(6443) and SW 443(6443). (MSW students will normally take the social policy foundation course before enrolling in this course). Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444(6444) Seminar in Public Policy and Aging (3)
(Same as Public Policy Administration 444(6444) and Gerontology 444(6444). Prerequisite: Consent of instructor. The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

445(6445) Directed Readings and Research in Public Administration (1-10)
Independent study through readings, reports, research projects, and conferences.

446(6446) Selected Topics in Health Care Policy (3)
(Same as Public Policy Administration 446(6460) and Sociology 446(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.

447(6447) Seminar in Public Policy (3)
Prerequisite: Graduate Standing. Research seminar aimed at producing a substantial research project in the areas of public policy processes and outcomes. The seminar may focus on specific policy processes such as agenda-setting, policy formulation, or policy adoption, or it may focus on the politics of specific policy areas such as environmental programs, social legislation or regulation. May be repeated for credit when the subject matter is different.

448(6448) Political Economy and Public Policy (3)
Prerequisite: Graduate standing. This course examines political economy in its contemporary manifestations as public choice and as the study of the ways in which institutional power shapes economic policies and performance. The course explores the origins and major concepts of political economy, the institutions of economic policy-making and economic policies in the U.S. It emphasizes the consequences of budget constraints, inflation, unemployment, and sectoral decline on the design and administration of public programs at all levels of government.

449(6449) Human Resources in the Public Sector (3)
Prerequisite: PPA 460(6600) or consent of instructor. (Same as SW 469(6449) and PPA 449(6490). Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

450(6450) Proseminar in Comparative 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.

451(6451) Seminar in Comparative Politics (3)
Research problems and design in comparative politics. May be repeated for credit when the subject matter is different.

452(6452) Public Policy of Conservation and Sustainable Development (3)

(Same as Biology 445(6250) Prerequisites: Graduate standing in Political Science or Biology and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of environmental policymaking in developing and developed economies.

455(6455) Directed Readings and Research in Comparative Politics (1-10)

Independent study through readings, reports, research projects, and conferences.

457(6457) Seminar in East Asian Politics (3)

Prerequisite: Graduate standing or consent of instructor. Study of concepts and research on the political culture, ideology, groups, political processes and institutions, and policy outcomes in the Chinese and/or Japanese political systems.

458(6458) Seminar in European Politics (3)

Prerequisite: Graduate standing or consent of instructor. Study of national political cultures, ideologies, regional security issues, national as well as supranational political institutions, and policy processes in Europe, with emphasis on post Cold-War developments.

459(6459) Seminar in Latin American Politics (3)

Prerequisite: Graduate standing or consent of instructor. This course focuses on the twin issues of economic and political change in Latin America. It explores shifts from open free-market models and provides tools to assess recent transitions from authoritarianism to democracy. Country cases include Mexico, Brazil, Argentina, Chile. Two Central American countries, El Salvador and Nicaragua plus Cuba also will receive attention.

460(6460) Proseminar in Political Theory (3)

Study of concepts and problems in normative political theory.

461(6461) Seminar in Political Theory (3)

Research problems and design in political theory. May be repeated for credit when the subject matter is different.

462(6462) Political Theory and Public Policy (3)

This course covers the ideological and ethical context of public policy and public policy analysis. Special attention is given to the way in which different contexts produce both different public policy and different ways of understanding public policy. Questions addressed include accountability, professionalism, freedom, justice, equality,

and, in general, ethical issues faced by both the policy maker and the policy analyst.

465(6465) Directed Readings and Research in Political Theory (1-10)

Independent study through readings, reports, research projects, and conferences.

470(6470) Proseminar in Urban Politics (3)

Examination of the relationships among the social, economic, and political systems of urban areas. Urban political structure, patterns of influence, political participation, and communication and political change. Special attention to problems of access to and control of urban political systems.

471(6471) Seminar in Urban Politics (3)

Research problems and design in urban and regional politics. May be repeated for credit when the subject matter is different.

475(6475) Directed Readings and Research in Urban Politics (1-10)

Independent study through readings, reports, and conferences.

480(6480) Proseminar in International Relations (3)

Examination of various approaches to the study of international politics and foreign policy, focusing on studies of conflict, decision making, international political economy, and related topics. Included are realist, idealist, and Marxist perspectives.

481(6481) Seminar in International Relations (3)

Research problems and design in international politics. May be repeated for credit when the subject matter is different.

482(6482) International Political Economy (3)

Prerequisite: Graduate standing. This course will examine the theoretical and policy issues of international political economy. In particular, it will focus on the politics of international trade, finance and investment. It will also analyze the themes of interdependence, hegemony, and dependency, as well as consider relations between developed and developing countries. Finally, the relative usefulness of liberal, Realist and Marxist approaches to the study of international political economy will be weighed.

485(Directed Readings and Research in International Relations (1-10)

Independent study through readings, reports, research projects, and conferences.

488(6488) Studies in International Relations (1-6)

Prerequisite: Graduate standing. Selected topics in international studies. May be repeated for credit provided the topic of the course is different each time.

**491(6490) Strategic and Program Planning for
Nonprofit Organizations (3)**

Prerequisites: Graduate standing or consent of instructor.
(Same as PPA 455(6550) and SW 455(6491). Strategic and
program planning enable an organization to concentrate on
efforts and set priorities guided by a mission, a vision, and
an understanding of its environment. Focus is on preparing
a strategic plan and a program plan for a nonprofit
organization and analyzing an organization's ability to
deliver goods and/or services to its constituents in today's
economic, social and political climate.

494(6494) Thesis Research (1-10)

Arranged.

495(6495) Internship (1-6)

Independent study involving work with an appropriate
public or private agency.

499(6499) Dissertation Research (1-10)

Arranged

Department of Psychology**Faculty**

Miles L. Patterson, Professor*, Chairperson
Ph.D., Northwestern University

Gary K. Burger, Professor*
Ph.D., Loyola University

James A. Breaugh, Professor*+
Ph.D., Ohio State University

Robert J. Calsyn, Professor*, Director of Gerontology
Ph.D., Northwestern University

Michael Harris, Professor*+
Ph.D., University of Illinois-Chicago

Edmund S. Howe, Professor Emeritus
Ph.D., University of London

Alan G. Krasnoff, Professor Emeritus
Ph.D., University of Texas

Samuel J. Marwit, Professor*
Ph.D., State University of New York at Buffalo

Patricia A. Resick, Curators' Professor*, Director, Center for Trauma Recovery
Ph.D., University of Georgia

Jayne E. Stake, Professor*, Director, Doctoral Program in Clinical Psychology
Ph.D., Arizona State University

George T. Taylor, Professor*, Director, Doctoral Program in Experimental Psychology, Director Master's Program
Ph.D., University of New Mexico

Brian Vandenberg, Professor*
Ph.D., University of Rochester

James T. Walker, Professor Emeritus
Ph.D., University of Colorado

Dominic J. Zerbollo, Jr., Professor Emeritus
Ph.D., Michigan State University

Carl Bassi, Associate Professor*¹
Ph.D., Vanderbilt University

Therese M. Macan, Associate Professor*
Ph.D., Rice University

Paul W. Paese, Associate Professor*, Director, Doctoral Program in Industrial/Organizational Psychology
Ph.D., University of Illinois

Ann M. Steffen, Associate Professor*,
Ph.D., Indiana University

Vetta L. Sanders Thompson, Associate Professor*
Ph.D., Duke University

Mark E. Tubbs, Associate Professor*, Associate Chair
Ph.D., University of Houston

Jeffrey N. Wherry, Associate Professor#, Director, Kathy J. Weinman Children's Advocacy Centre
Ph.D., University of Southern Mississippi

Michael G. Griffin, Assistant Professor*
Ph.D., University of Missouri-St. Louis

Donald D. Lisenby, Assistant Professor Emeritus
Ph.D., Washington University

Paul C. Notaro, Assistant Professor
Ph.D., University of Michigan

Michael J. Stevens, Assistant Professor+
Ph.D., Purdue University

Robert N. Harris, Clinical Associate Professor*
Ph.D., University of Kansas

Tara Galovski, Research Assistant Professor
Ph.D., University of Albany-State University of New York

Pallavi Nishith, Research Associate Professor
Ph.D., Washington State University

Larry O'Leary, Adjunct Associate Professor
Ph.D., Saint Louis University

John W. Rohrbaugh, Adjunct Associate Professor
Ph.D., University of Illinois-Urbana Champaign

David E. Smith, Adjunct Associate Professor
Ph.D., Colorado State University

Alene S. Becker, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Ruth Davies, Adjunct Assistant Professor
Ph.D., Washington University

Timothy J. Jovick, Adjunct Assistant Professor
Ph.D., Saint Louis University

Leslie Kimball, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Lee Konzak, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Gary A. Morse, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Sandra K. Seigel, Adjunct Assistant Professor
Ph.D., Saint Louis University

Linda Sharpe-Taylor, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Mary K. Suszko, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

James H. Wallhermfachtel, 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
¹ 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. The department also has an electronics technician.

Minor in Psychology The department offers a minor in Psychology to students who have a special interest in this field but wish to major in another discipline.

Undergraduate Studies

General Education Requirements

Majors must satisfy the university and college general education requirements. Courses in Psychology may be used to meet the social sciences requirement.

Majors may not take Psychology courses on a satisfactory/unsatisfactory basis.

Undergraduate Psychology Office

Advisers in the Undergraduate Psychology Office (108 Stadler Hall, 516-6676) are available to provide specific information on degree requirements and course offerings, answer questions about career options, and information about graduate work in Psychology.

Degree Requirements

Bachelor of Arts in Psychology

At least 32, but no more than 45, hours must be completed in courses taught by or cross listed with the Psychology department. Candidates must have a cumulative grade point average of 2.0 or better in the major. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the major.

The following core curriculum is required:

Psych 3(1003), General Psychology
201(2201), Psychological Statistics
219(2219), Research Methods

Note: Students must fulfill the university's mathematical skills requirement before taking Psychology 201(2201), Psychological Statistics. Psychology 201(2201) is a prerequisite for Psychology 219(2219).

In addition to the core curriculum, at least 22 additional credit hours in Psychology must be taken. At least three of these courses totaling a minimum of 9 hours must be at the 300-level. Multiple enrollments in Psychology 390(3390), Directed Studies, count as no more than one 300-level

course. No more than 6 hours of independent study courses (Psychology 295(3295), Selected Projects in Field Placement, and Psychology 390(3390), Directed Studies) may be counted toward the 32-hour minimum needed for graduation.

Graduate School Preparation

This program is designed for students planning to pursue doctoral studies in Psychology. In addition to the core curriculum, students are advised to take Psych 361(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:

160(2160), Social Psychology
211(2211), Physiological Psychology
212(2212), Principles of Learning
216(2216), Personality Theory
245(2245), Abnormal Psychology
270(2270), Developmental Psychology: Infancy, Childhood & Adolescence
272(2272), Developmental Psychology: Adulthood and Aging

Students are also encouraged to become involved in independent research (Psych 390(3390), Directed Studies).

Developmental Psychology

This focus area is ideal for double majors in education and Psychology and for Psychology majors with a general interest in the area of development. In addition to the core curriculum, students are advised to take at least five of the following Psychology courses with at least two at the 300 level:

216(2216), Personality Theory
270(2270), Developmental Psychology: Infancy, Childhood & Adolescence
272(2272), Developmental Psychology: Adulthood and Aging
295(3295), Selected Projects in Field Placement
305(4305), Cognitive Development
306(4306), Social Development
340(3340), Clinical Problems of Childhood
349(4349), Human Learning and Memory
356(4356), Thinking and Cognition
373(4373), Psychology of Aging
376(4376), Mental Health and Aging

Community Mental Health

Designed for students interested in counseling and community programs, this focus area is especially suitable for double majors in another social science, particularly in social work and sociology. In addition to the core curriculum, students are advised to take at least five of the following courses in Psychology, with at least two at the 300 level:

160(2160), Social Psychology
161(2161), Helping Relationships
225(2225), Behavior Modification
232(2232), Psychology of Victims
235(4235), Community Psychology
245(2245), Abnormal Psychology
256(2256), Environmental Psychology
295(3295), Selected Projects in Field Placement
340(3340), Clinical Problems of Childhood
346(3346), Introduction to Clinical Psychology
365(4365), Psychological Tests and Measurements
376(4376), Mental Health and Aging

Industrial/Organizational This focus area is designed for students interested in human resource management, performance assessment, personnel training, organizational behavior, and related fields. This area would be suitable for Psychology majors pursuing either a double major or a minor in business administration. In addition to the core curriculum, students are advised to take the following five Psychology courses.

160(2160), Social Psychology
222(2222), Group Processes in Organizations
318(3318), Industrial and Organizational Psychology
320(3320), Personnel Assessment
365(4365), Psychological Tests and 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 210(3600), Management as a Behavioral Science I
BA 311(3611), Management as a Behavioral Science II
BA 312(3622), Industrial and Labor Relations
BA 319(3624), Employee Training and Development
Sociology 304(4040), Survey Research Practicum

Requirements for the Minor

Candidates must take a minimum of 15 hours in courses taught by or cross-listed with the Psychology department, including at least 6 hours at the 300 level.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Graduate Studies

Admission Requirements

In addition to meeting the general admission requirements of the Graduate School, applicants should have completed undergraduate courses in general psychology, psychological statistics, and research methods. Each doctoral program has additional admission requirements specific to the program.

Teaching Assistantships Stipends for teaching assistantships are available for the doctoral programs only. Educational fees are waived for teaching assistants. **Applications** Each program has its own deadline for completed applications. They are as follows:

Ph.D. in Psychology:

Clinical Psychology--January 15
Industrial/Organizational Psychology--February 1
Experimental Psychology--February 1

M.A. in General Psychology--February 1

Master of Arts in Psychology

The University of Missouri-St. Louis offers a flexible program of studies leading to the master of arts degree in general Psychology. Course work is possible, depending upon student demand, in several areas of experimental and applied Psychology (e.g., Psychobiology and behavioral neuroscience; human learning, memory, and cognition; industrial/organizational psychology). The M.A. degree does not constitute a license to practice in Missouri or elsewhere as a professional psychologist. The M.A. program does not offer course work in either counseling or clinical psychology.

There is no thesis or language requirement. Part-time or full-time enrollment is permissible. The M.A. degree is a terminal degree and is separate from the Ph.D. program in Psychology.

The M.A. in Psychology requires a total of 32 semester hours of course work. Students must take the following set of quantitative courses:

421(7421), Quantitative Methods I
422(7422), Quantitative Methods II

Elective courses will constitute the remaining hours needed for the degree. All programs of study for M.A. students require the approval of a member of the departmental M.A. advisory committee.

Ph.D. in Psychology

The doctoral program is organized around courses and directed research experience that emphasize the scientific approach to the study of psychology. Courses in the areas of quantitative methods, design and methodology, personality, motivation, social psychology, learning, and cognition are focal in the program.

Ph.D. Programs

There are three distinct programs within the Ph.D. Each has its own specific course and research requirements. Handouts describing these requirements are available from the department on request. The following briefly describes each program.

Clinical Psychology The clinical psychology program has been fully accredited by the American Psychological Association since 1977 and is patterned upon the scientist-practitioner model of clinical training. The clinical psychology program requires five years of full-time study. Students are not considered for admission on a part-time basis. Through the medium of courses, practicum, and research experiences, this emphasis area prepares clinical psychologists for careers in research, teaching, and clinical practice.

Students in the clinical psychology program participate for three years in the Psychology Department's Community Psychological Service. This facility provides psychological services to the public and consultation to outside agencies. Students also receive clinical experience in clerkships and during a full-time year-long internship. Research requirements include an initial independent research project, a major critical review of research in a specialty area, and a dissertation.

General Experimental Psychology The general experimental program provides opportunities for study and research in the areas of cognitive psychology and behavioral neuroscience. Full-time enrollment is encouraged, although part-time enrollment is possible.

Industrial/Organizational Psychology The industrial/organizational psychology program is offered in cooperation with selected faculty from the College of Business to prepare students for careers in industry or academia. This emphasis provides "industrial" training in areas such as personnel selection, training, and test development/validation, as well as "organizational" training in areas such as work motivation, leadership, and group processes. Research and other training experiences in various settings are also incorporated.

Clinical Psychology Respecialization-Advanced Graduate Certificate Program

This program is designed for graduates of accredited doctoral programs in psychology who wish to receive training in the specialty field of clinical psychology. Respecialization students are trained within the context of the UM-St. Louis Clinical Psychology Doctoral Program, which is accredited by the American Psychological Association. The program provides an integrated sequence of training experiences, including didactic course work and practicum placements. Core graduate-level psychology educational requirements not completed elsewhere are included in the respecialization student's course of study.

Graduate Certificate in Trauma Studies

Requirements

The graduate certificate is awarded upon the completion of 18 credit hours of coursework on the topic of trauma studies. No more than nine hours of graduate level independent research or fieldwork may be used for the

certificate. The coursework for the certificate must be taken in at least two departments and may include no more than three hours at the 300-level. The courses meeting the requirements for the certificate include:

Criminology 325(3325), Gender, Crime, and Justice
Criminology 350(4350), Victimology
Criminology 432(6432), Criminal Law
Criminology 443(6443), Violent Crime
Criminology 446(6446), Sex Crimes
Criminology 448(6448), Victimization
Psychology 447(7447), Trauma and Recovery
Psychology 408(7408), Psychological Perspectives on Death and Dying
Psychology 398(4398)/Social Work 398(4398), Child Maltreatment: A Multidisciplinary Approach
Social Work 310(3601), Child Abuse and Neglect
Psychology 399(4399)/Social Work 399(4399), Seminar: Child Sexual Abuse

Career Outlook

The undergraduate major in Psychology can lead to further training at the graduate level, function as a major within a general liberal arts degree, or offer some degree of specialization in such areas as developmental psychology, industrial/organizational psychology, and community mental health. Job opportunities with a bachelor's degree include working in business, social welfare, and probation and parole. For more career information see an adviser in the Undergraduate Psychology Office (Room 108 Stadler). To function specifically as a psychologist, requires a graduate degree and students with such an interest should plan for this additional training.

Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary 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: 3(1003), 102(1102), 140(2140), 160(2160), 161(2161), 162(2162), 200(2200), 201(2201), 211(2211), 212(2212), 216(2216), 219(2219), 222(2222), 225(2225), 230(2230), 232(2232), 235(4235), 245(2245), 256(2256), 268(1268), 270(2270), 272(2272), 295(3295), 300(4300), 301(4301), 302(3302), 305(4305), 306(4306), 307(4307), 308(4308), 310(4310), 311(4311), 312(4312), 314(4314), 317(3317), 318(3318), 320(3320), 340(3340), 346(3346), 349(4349), 356(4356), 357(4357), 361(4361), 365(4365), 373(4373), 374(4374), 375(4375), 376(4376), 380(4380), 390(3390), 392(4392), 398(4398).

3(1003) General Psychology (3) [SS]

A broad introductory survey of the general principles of human behavior.

102(1102) Women, Gender and Diversity (3)

(Same as Interdisciplinary 102(2102) & Sociology 102(2102). An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. Explores issues of power, identity, and relationships in women's lives.

140(2140) Female Sexuality (3)

Prerequisites: Psych 3(1003), or Biology 1(1012), or its equivalent. This course will present a biological-psychological orientation toward the study of female sexuality. Topics include: sexual anatomy, hormonal influences on sexual behavior, psychosexual development, sexual attraction and relationships, sexual response and dysfunction, menstruation, pregnancy, menopause, reproductive health issues, and social issues in sexuality.

160(2160) Social Psychology (3)

(Same as Sociology 160(2160). Prerequisite: Psych 3(1003) or Sociology 10(1010). Study of interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

161(2161) Helping Relationships (3)

Prerequisites: Psych 3(1003) and consent of instructor. Exploration of the basic elements contributing to effective helping skills. Course assignments include keeping a journal, writing papers, and a final exam. Readings, discussion, and guided experiences will be used to instill active listening and communication skills. Ethics of helping relationships will be emphasized.

200(2200) Drugs and Behavior (3)

Prerequisites: Psych 3(1003) and three other hours in psychology or biology. The course is designed to provide an introduction to the relationship between drugs and behavior. The emphasis will be on psychoactive drugs, alcohol, nicotine, as well as drug-like substances produced naturally in the body.

201(2201) Psychological Statistics (4)

(With Laboratory) Prerequisites: Psych 3(1003) and satisfaction of the university's mathematical skills requirement. Statistical methods in psychological measurement and analysis of psychological data. Frequency distribution analysis, sampling, test of significance, and correlation methods.

211(2211) Physiological Psychology (3)

Prerequisites: Psych 3(1003) or equivalent and Biology 1(1012). A survey of the major areas of physiological psychology with an emphasis on their historical development.

212(2212) Principles of Learning (3)

Prerequisite: Psych 3(1003). A consideration of critical findings in learning.

216(2216) Personality Theory (3)

Prerequisite: Six hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems.

219(2219) Research Methods (3)

(With laboratory.) Prerequisite: Psych 201(2201). Research methods and analysis techniques used in psychological inquiry. Special emphasis placed on the logic of research design. Includes laboratory study of, and analysis of, selected methods.

222(2222) Group Processes in Organizations (3)

Prerequisite: Psych 3(1003) or BA 210(3600). Topics include theory, research, and practice in coordination, conflict, and decision making in groups and organizations, as well as the role of influence, power, and leadership effectiveness in understanding interpersonal and group relations.

225(2225) Behavior Modification (3)

Prerequisite: Nine hours of psychology or consent of instructor. Methods, applications, and ethics of the use of behavior theory (primarily Skinner's operant conditioning) to the control of human behavior in a variety of settings including mental institutions, grade schools, universities, individual treatment, and communal living.

230(2230) Psychology of Women (3)

Prerequisite: Psych 3(1003). Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women.

232(2232) Psychology of Victims (3)

Prerequisite: Psych 3(1003). A review of the effects of crime, violence, natural disasters, and other traumas on psychological functioning with attention to the relationship between gender and victimization. Prevention and therapy techniques will also be discussed.

235(4235) Community Psychology (3)

Prerequisite: Psych 3(1003). The analysis of psychological problems in terms of the social and situational forces that produce them. Community psychology analyzes the situational problems in living. Epidemiology of mental illness; group, family, and crisis intervention; mental health-care delivery; program evaluation and demonstration project research; role of psychologist as consultant and change agent; and utilization of nonprofessional manpower.

245(2245) Abnormal Psychology (3)

Prerequisite: Psych 3(1003). Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders.

256(2256) Environmental Psychology (3)

Prerequisite: Psych 160(2160) or Sociology 160(2160). Analysis of environmental influences on behavior and man's influence, in turn, on the environment. Topics will include a consideration of both individual processes relating to the environment (such as the perception, evaluation, and adaptation to the environment) and social processes relating to the environment (such as privacy, territoriality, and crowding).

268(1268) Human Growth and Behavior (3) [SS]

Prerequisite: Psych 3(1003). A survey course, designed for non-majors, of development over the lifespan, with an emphasis on the developmental tasks and hazards of each age period. Majors in psychology and students planning to pursue a career in psychology research, teaching, or practice are strongly encouraged to take Psychology 270(2270) and/or Psychology 272(2272) instead of this course.

270(2270) Developmental Psychology: Infancy, Childhood & Adolescence (3)

Prerequisite: Psych 3(1003). The theory and research surrounding cognitive, social, emotional, and physical development from conception through adolescence. Intended for students with career interests in the study, education, and/or treatment of children.

272(2272) Developmental Psychology: Adulthood and Aging (3)

(Same as Gerontology 272(4280).) Prerequisite: Psych 3(1003). Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

295(3295) Selected Projects in Field Placement (3)

Prerequisites: Junior standing, fifteen hours of psychology, and departmental approval. Selected options in field work placement-experiences in various local agencies with training and supervision by faculty. May be repeated once for credit.

300(4300) Neuropharmacology and Behavior (3)

Prerequisites: Psych 200(2200) plus 6 additional hours of psychology. The course is designed for advanced undergraduate students interested in a career in psychopharmacology or related fields in the health sciences. Emphasis will be on (1) underlying neural processes, (2) traditional laboratory methods as they have been adapted to the study of drugs, and (3) the unique contributions made by psychopharmacologists to both areas.

301(4301) Advanced Statistics and Experimental Design (3)

Prerequisites: Twelve hours of psychology, including Psych 201(2201). Statistical methods which are particularly useful in psychological research and the design of experiments appropriate to these methods.

302(3302) Computers in Psychology (3)

Prerequisites: Nine hours of psychology including Psych 201(2201) and junior or senior standing. The course is organized around computer applications in the behavioral sciences for the Macintosh machine. The goals for the course include familiarization with (1) MAC environment to prepare the student for the explosion of computer applications now and in the future, (2) the hardware and software products available for the working psychologist, and (3) the software programs of choice in the field through hands-on, individual use of the MAC. Some modest level of computer (MAC, PC, or mainframe) experience is recommended.

305(4305) Cognitive Development (3)

Prerequisites: Junior standing and Psych 270(2270), or consent of instructor. Data and theory concerned with how children's thinking changes over time. Discussion will include domain-general versus domain-specific theories, social and cultural influences on cognition, gains in memory, attention, problem solving, and metacognition, conceptual development, children's naïve theories, schooling, and various definitions and measures of intelligence.

306(4306) Social Development (3)

Prerequisites: Junior standing and Psych 270(2270), or consent of instructor. Data and theory concerned with social behavior in infants, preschoolers, and school-aged children. Discussion will include emotional regulation, measurement and nature of temperament, formation and maintenance of attachment relationships, sex-role development, theories of aggression and the effects of socializing agents such as family, peers, media, and culture on development.

307(4307) Psychology of Oppression (3)

Prerequisite: Nine (9) hours of psychology. Surveys the concept of oppression and psychology's contribution to an understanding of this human reality. Definitions and the assumptions, liabilities, and contributions of specific theories of oppression are considered. Finally, the course examines the psychological and mental health consequences of the individual's experience of oppression.

308(4308) African American Psychology (3)

Prerequisites: 9 hours of Psychology or 6 hours of Black Studies minor, or consent of instructor. Provides an overview of the emergence of contemporary African American Psychology. It explores the implications of a psychological perspective specific to African Americans. Traditional research theories are explored from a historical perspective. African American identity, socialization, personality, cognitive development, and mental health are discussed. Contemporary issues which impact African American behaviors and attitudes are also addressed.

310(4310) Motivation Theory (3)

Prerequisites: Junior standing and twelve hours of Psychology, or consent of instructor. Survey of current theoretical material in the area of motivation.

311(4311) Psychology of Nonverbal Behavior (3)

Prerequisite: Psych 160(2160) or Sociology 160(2160). Psychological perspective on the role of nonverbal behavior in social settings. Primary concerns of the course will include an analysis of a) functions of nonverbal behavior (e.g., communication, intimacy exchange, control), b) factors influencing nonverbal expression (e.g., culture, personality, relationships), and c) various theoretical views on nonverbal behavior and communication. Applications to various problems and settings in everyday life will also be pursued.

312(4312) Social Cognition (3)

Prerequisites: Psych 160(2160) or Sociology 160(2160). Research and theory on the role of cognitive processes in social behavior. Topics include attitudes and attitude change, social inference, schemas, and cognitive links to behavior and affect.

314(4314) Physiological Psychology (3)

(With laboratory.) Prerequisites: Psych 219(2219), Biology 1(1012). The biological and physiological correlates of

behavior. Special emphasis placed on the neural and endocrine systems.

317(3317) Social Psychology of Conflict and Negotiation (3)

(Same as Sociology 317(3317).) Prerequisite: nine hours of psychology or nine (9) hours of sociology, including Psych 160(2160) or Soc 160(2160). The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

318(3318) Industrial and Organizational Psychology (3)

(Same as BA 318(3623).) Prerequisites: Psychology 201(2201) or BA 131 & 210(3600). This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance appraisal, training, leadership, motivation, job satisfaction, and organizational design.

320(3320) Personnel Assessment (3)

Prerequisite: Psych 318(3318) or BA 309(3621). This course will provide an in-depth study of several topics in the area of personnel psychology. Consideration will be given to issues such as assessment centers, employment interviewing, personnel appraisal, employment test validity, and legal issues relevant to personnel assessment.

340(3340) Clinical Problems of Childhood (3)

Prerequisites: A total of twelve hours of psychology including Psych 3(1003) and Psych 270(2270). This course will address the clinical disorders and difficulties of children and the treatment of these disorders. Topics that will be addressed include autism, childhood schizophrenia, behavior disorders, drug abuse, enuresis, encopresis, and childhood co-compulsive and phobic reactions. Treatments designed for specific use with children, including behavioral, drug, and community mental health approaches will be addressed.

345(3345) Lesbian Psychology (3)

Prerequisites: Junior standing, 9 hours of psychology or Women's Studies, or consent of instructor. Explores psychological, social, cultural, and historical aspects of lesbianism. Topics include development of lesbian identity historically and individually, causes of sexual orientation, coming out, relationships and friendship, sexuality, roles, prejudice and discrimination, race and class, legal and economic issues, politics and feminism, health, and community.

346(3346) Introduction to Clinical Psychology (3)

Prerequisites: Nine hours of Psychology, including Psych 216(2216) or Psych 245(2245). A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment.

349(4349) Human Learning and Memory (3)

Prerequisites: Nine hours of psychology or consent of instructor. A survey of contemporary research, theory, and facts pertaining to the acquisition, retention, and forgetting of information.

356(4356) Thinking and Cognition (3)

Prerequisites: Nine hours of psychology or consent of instructor. An introduction to modern analytical approaches to the psychology of thinking: problem solving, reasoning, categorizing, judgment, attention, and consciousness. Particular attention is paid to the mental structures and operations involved in the encoding, abstraction, representation, transformation, and retrieval of knowledge.

357(4357) Psychology of Learning (3)

(With laboratory.) Prerequisite: Psych 219(2219). Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected problems.

361(4361) History and Systems of Psychology (3)

Prerequisites: At least fifteen hours of psychology. The course should be taken no sooner than the winter term of the junior year. Historical antecedents of contemporary psychology, including a survey of systems and schools of psychology.

365(4365) Psychological Tests and Measurements (3)

Prerequisites: Psych 201(2201) and Psych 219(2219), or consent of instructor. Survey of psychological testing and principles of test construction and evaluation. Laboratory experience in construction, administration, and interpretation of selected tests.

373(4373) Psychology of Aging (3)

(Same as Gerontology 373(4373).) Prerequisite: Nine hours of psychology or consent of instructor. This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.

374(4374) Introduction to Clinical NeuroPsychology (3)

Prerequisite: Nine hours of psychology. A survey of neuropsychological findings concerning relationships between brain and behavior. Topics will include brain function, neuroanatomy, neurological syndromes, and methods of neuropsychological assessment.

375(4375) The Social Psychology of Disabilities (3)

Prerequisite: Sociology 160(2160) or Psych 160(2160) or consent of instructor. (Same as Sociology 375(4375) A

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.

376(4376) Mental Health and Aging (3)

Prerequisites: Psych 272(2272), Psych 373(4373), or graduate standing. (Same as SW 376(4376) and GER 376(4376). (MSW students normally take all foundation courses prior to enrolling in this course). A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and on treatment approaches for elders.

380(4380) Psychology of Death, Dying, and End-of-Life Concerns (3)

Prerequisite: Nine hours of psychology. (Same as Gerontology 380(4380).) This course will address the psychological aspects of 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.

390(3390) Directed Studies (1-5)

Prerequisite: Consent of instructor. Directed reading and research. May be repeated for a maximum total of ten hours.

392(4392) Selected Topics in Psychology (1-3)

Prerequisites: Twelve hours of psychology and consent of instructor. A seminar of selected issues and methods in psychology. May be repeated once for credit.

398(4398) Child Maltreatment: A Multidisciplinary Approach (3)

(Same as SW 398(4398). Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of psychology and social work are provided.

399(4399) Seminar: Child Sexual Abuse (1)

(Same as SW 399(4399) Provides intensive study in interviewing, legal issues, assessment, medial issues, and therapeutic intervention in cases of child sexual abuse.

403(7403) Psychopathology (3)

Prerequisite: Admission to Clinical Psychology program or permission of the instructor. A critical examination of the clinical-experimental literature on psychopathology. Etiologies of cognitive/affective functions and dysfunctions are explored, and implications for therapeutic intervention are considered.

404(7404) Introduction to Clinical Assessment I (3)

Prerequisite: Admission to Clinical Psychology program. Fundamentals of clinical assessment with emphasis on interviewing and the measurement of cognitive functioning.

405(7405) Personality (3)

Prerequisite: Admission to Clinical Psychology program or permission of the instructor. Current theories and research in personality. Major psychodynamic, trait, phenomenological, cognitive, and social learning approaches are covered, with a focus on personality structure and individual differences, personality processes and dynamics, development, psychopathology, and change.

406(7406) Introduction to Clinical Assessment II (3)

Prerequisite: Psych 404(7404). Theory and techniques of personality assessment with emphasis on projective personality tests.

407(5407) Psychopharmacology (3)

Prerequisite: 12 units of graduate-level psychology courses and consent of instructor. An examination of the effects of drugs on the brain and on behavior. Primary emphasis is on those drugs used in the treatment of affective disorders, schizophrenia, and anxiety.

408(7408) Psychological Perspectives on Death and Dying (3)

Prerequisite: Graduate standing. Addresses a variety of end-of-life issues including death attitudes, funeral practices, ethics, grief theory, family communication patterns, and health care systems. Research findings and theoretical approaches will be emphasized.

410(7410) Women and Mental Health (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will focus on contemporary research on the psychology of women pertaining to mental health issues. Etiology and treatment of disorders disproportionately affecting women will be emphasized.

412(7412) Social Psychology (3)

Prerequisite: Admittance to psychology doctoral program or consent of instructor. A review of key areas in contemporary theory and research in social psychology.

418(7418) Seminar in Human Sexuality (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Review of theory and research in human sexuality from physiological, psychological, and social perspectives. Implications for the assessment and treatment of sexual dysfunction are considered.

419(7419) Existential Issues in Clinical Psychology (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will review existential thought in psychology and its application to understanding clinical problems and treatment. Particular attention will be given to how Psychotherapy can be understood within an existential framework that focuses on the issues of death, freedom, responsibility, and isolation.

421(7421) Quantitative Methods I (4)

(With laboratory.) A comprehensive study of the use of analysis of variance procedures in analyzing data. Topics include completely randomized designs, randomized blocks, factorial designs, and the analysis of covariance.

422(7422) Quantitative Methods II (4)

(With laboratory.) A comprehensive study of the use of multivariate statistics in data analysis. Topics include multiple regression, canonical correlation, factor analysis, discriminant analysis, and the multivariate analysis of variance.

429(7429) Psychometric Theory (3)

Prerequisite: Consent of instructor. A consideration of test reliability, validity, and construction from the standpoint of modern psychometric theory and a survey of unidimensional and multidimensional scaling procedures.

431(7431) Clinical Supervision (1-3)

Prerequisite: Admission to Clinical Psychology program. Supervised experience in clinical practice. May be repeated six times for credit.

432(7432) Mental Health Administration and Professional Issues I (3)

Prerequisites: Admittance to Clinical Psychology Program. Review of current issues in professional psychology.

434(7434) Seminar: Introduction to Psychotherapy (3)

Prerequisite: Admittance to Clinical Psychology program and Psych 406(7406). This course considers theories of personal change and their practical application in psychotherapy. Topics include the development of the therapist-client relationship, case management, process and outcome research, and ethical principles for the psychotherapist.

439(7439) Summer Supervision (1)

Prerequisite: Psych 431(7431). Supervision experience in clinical practice at all graduate year levels during the summer months. Can be repeated for credit.

440(7440) Principles of Family Therapy (3)

Prerequisite: Psych 434(7434). Survey of research and theory underlying models of family interaction. Practical application of specific techniques to the family system is emphasized.

441(7441) Seminar: Cognitive and Behavior Theories (3)

Prerequisite: Admission to Clinical Psychology program or permission of instructor. A course on cognitive and behavioral theories and their applications to clinical populations. Emphasis is on a critical review of research on cognitive and behavioral therapy procedures.

442(7442) Seminar: Cognitive and Behavior Therapy (3)

Prerequisites: Admittance to doctoral program in Clinical Psychology and Psych 441(7441). The practice of behavior therapy. Students will learn to implement behavioral assessment and therapy strategies in clinical settings.

444(6444) Clinical Geropsychology (3)

Prerequisite: Graduate Standing or consent of instructor. This course examines major predictors of Psychosocial functioning in older adults. The emphasis is on assessment and research methods appropriate to studying developmental issues in late life. Topics include interpersonal relationships, mental health, and a critique of interventions designed to increase life satisfaction.

448(6448) Multicultural Issues in Clinical Psychology (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. A survey of theoretical perspectives utilized in the treatment of various cultural groups. Their relationship to and implications for the treatment of members of various cultural groups will be explored. Strategies and ethical concerns in diagnosis, test interpretation, and treatment are considered.

449(7449) Research Methods in Applied Psychology (3)

Prerequisite: One graduate course in statistics. This course focuses on the basics of conducting research in applied psychology. Topics include: philosophy of science; reliability and validity; experimental, quasi-experimental, and nonexperimental designs; power; and meta-analysis.

450(7450) Clinical Internship I (1)

Prerequisite: Consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

451(7451) Clinical Internship II (1)

Prerequisites: Psych 450(7450) and consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

454(7454) Seminar: Personnel Psychology (3)

An analysis of theories and research in personnel and industrial psychology. Topics include testing, assessment centers, performance appraisal, and interviewing.

455(7455) Seminar: Organizational Psychology (3)

An analysis of theories and research in organizational psychology. Topics include theories of motivation,

leadership, job design, group process decision making, organizational effectiveness, and the relation between organizations and their environment.

457(7457) Seminar: Special Topics in Industrial Psychology (3)

A seminar of selected issues and methods in personnel psychology.

458(7458) Seminar: Special Topics in Organizational Psychology (3)

A seminar of selected issues and methods in organizational psychology.

459(7459) Practicum in Industrial/Organizational Psychology (1-4)

Supervised experience in personnel or human resource management.

460(7460) Internship in Industrial/Organizational Psychology (1-4)

Prerequisite: Consent of adviser and admission to the graduate program in I/O Psychology. Supervised field experience in human resource management or organizational psychology areas following completion of at least two years of course work.

461(5461) Seminar: Learning (3)

A critical examination of contemporary problems in learning.

465(5465) Seminar: Physiological Psychology (3)

A critical examination of contemporary problems in physiological psychology.

466(6466) Seminar: Developmental Psychology (3)

A critical examination of contemporary problems in developmental psychology.

468(5468) Seminar: Cognitive Processes (3)

Prerequisite: Admittance to doctoral program in psychology or consent of instructor. A critical examination of contemporary problems in cognitive processes.

472(7472) Special Topics in Psychology (3)

A seminar of selected issues and methods in psychology.

474(7474) Clinical Research in Applied Settings (3)

Prerequisite: Psychology 421(7421) and 422(7422). This course provides information on the design and implementation of research in applied settings (e.g., human service agencies). Topics include program evaluation, consultation models, risk factor analysis, presentation and health promotion, and quality control.

475(5475) Introduction to Evaluation Research Methods (3)

(Same as Sociology 475(5475), Public Policy Administration 475(6750), and CCJ 475(5475).)
Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

476(7476) Seminar in Clinical Child Psychology (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Introduction to principles, theory, and methods of study in the field of clinical child psychology. Emotional and behavioral dysfunctions are considered from developmental and socialization perspectives.

477(7477) Principles of Child Psychotherapy (3)

Prerequisites: Psych 434(7434) and 476(7476). The course will focus on treatments for children with clinical problems. Play therapy, family therapy, and behavioral therapy techniques will be reviewed. Special attention will be given to differentiating when to use each modality, as well as how they can be effectively combined.

478(7478) Directed Research in Industrial/Organizational Psychology (1-4)

Independent study of an issue in industrial/organizational psychology through the application of research techniques.

479(7479) Directed Readings in Industrial/Organizational Psychology (1-4)

Independent literature review of a topic in industrial/organizational psychology.

480 Research Methods in Clinical Psychology (3)

Prerequisite: Psychology 421(7421) or equivalent. An overview of research methods that are appropriate for clinical and other nonlaboratory settings.

482(7482) Ethics for Psychologists (1)

Prerequisite: Admittance to doctoral program in Clinical Psychology. A study of ethical standards as they relate to teaching, research, and professional practice.

483(7483) Directed Research (1-10)

484(7484) Directed Readings (1-10)

485(7485) Research Team I (2)

Prerequisite: Admittance to doctoral program in Clinical Psychology. Group supervision of beginning research leading to the Independent Research Project.

486(7486) Research Team II (1)

Prerequisite: Completion of Independent Research Project or Third Year standing in doctoral program in Clinical Psychology. Group supervision of advanced research leading to the dissertation proposal.

491(7491) M.A. Thesis Research (1-10)

492(7492) Ph.D. Thesis Research (1-10)

494(7494) Integrative Research Seminar in Gerontology (3)

(Same as Gerontology 494(6494), Prerequisite: A graduate level research methods course (e.g., PPA 401(6010) This seminar requires students to critically examine research in gerontology in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation; and qualitative methods.

Department of Social Work

Faculty

Lois Pierce, Professor*, Chairperson
Ph.D., Washington University
Uma Segal, Professor*
Ph.D., Washington University
Norman Flax, Associate Professor Emeritus*
Ph.D., Saint Louis University
Joan Hashimi, Associate Professor Emeritus*,
Ph.D., Washington University
Margaret Sherraden, Associate Professor*
Ph.D., Washington University
John McClusky, Visiting Associate Professor
Ph.D., University of California-Berkley
Sharon Johnson, Assistant Professor
Ph.D., Washington University
Lia Nower, Assistant Professor
Ph.D., Washington University
Cynthia Sanders, Assistant Professor
Ph.D., Washington University
Patricia Rosenthal, Lecturer
M.S.W., Washington University
Beverly Sporleder, Lecturer
M.S.W., Washington University
William Rainford, Lecturer
Ph.D., University of California-Berkley

* members of Graduate Faculty

Social work faculty members are committed to excellence in teaching and scholarly research in a wide range of specialties. These include child welfare, gerontology, community organization, addictions, and social service policy. Faculty also serve on the executive and advisory boards of many area social service agencies.

General Information

Degrees and Areas of Concentration The Department of Social Work offers courses leading to a bachelor of social work degree (B.S.W.), a master of social work (M.S.W.), and a minor in social work. The B.S.W. program is fully accredited, and the M.S.W. is in the last phase of accreditation (candidacy) by the Council on Social Work Education. The programs stress the critical, empirical, and applied aspects of social work, incorporating a liberal arts perspective throughout the curriculum. There is a strong accent on community and agency field work as an integral part of the program. Professional social work education enables students to integrate the knowledge, values and skills of the profession into competent practice.

Undergraduate social work majors and Master's students should obtain a copy of the *Student Handbook* (also available on the social work department's Web page <http://www.umsl.edu/~socialwk>). BSW students must see

a social work adviser for advisement each semester. Students in the B.S.W. or the M.S.W. program must set up an appointment with the practicum office one semester prior to enrolling in the practicum and attend a series of prepracticum orientation sessions.

Undergraduate Studies

General Education Requirements

Majors must satisfy the university and college general education requirements, except that proficiency in a foreign language is recommended but not required.

Courses required for the B.S.W. degree may not be taken on a satisfactory/unsatisfactory basis except Social Work 320(4800) and Social Work 321(4850).

Admission Requirements

Students entering UM-St. Louis as freshman and as transfer students should indicate a pre-social work major. Students must apply to the program concurrent with SW 210(3100). Admission to the program is conditional upon the successful completion of all necessary requirements.

Requirements for Admission to the Social Work program:

- Junior standing
- Submission of:
 - Application for admission to social work program.
 - Transcript of all university work.
 - Two letters of reference: one from a college or university professor and one other, preferably from a work or volunteer experience supervisor.
- Completion of Social Work 100(1100), 150(1200), and 151(1201) or their equivalents or completion of an A.A. in Human Services.
- Satisfactory completion of all courses listed as prerequisites for Social Work 210(3100), 280(4200), and 285(3400).
- Applicants may be asked to meet with the social work admissions committee.

Undergraduate Studies

Bachelor of Social Work

Students must have a minimum GPA of 2.5 in social work and related-area requirement courses to enter field practicum. Candidates for this degree program must complete the core requirements including the following social work courses:

- 100 (1100), Social Work and Social Problems
- 150 (1200), (Social Welfare as a Social Institution
- 151 (1201), Social Welfare as a Social Institution Laboratory
- 210 (3100), Introduction to Interventive Strategies
- 280 (4200), Human Behavior in the Social Environment
- 285 (3400), Social Issues and Social Policy Development

- 300 (3200)**, Interventive Strategies for Social Work with Individuals, Families, and Groups
305 (3300), Interventive Strategies for Social Work with Organizations and Communities
315(4100), Diversity and Social Justice
320(4800), and **321(4850)** Supervised Field Experience in Social Work I and II
320A(4801) and **321A 4850**, Integrative Field Experience Seminar I and II

A minimum of 37 hours and a maximum of 50 hours may be taken in social work. A minimum of 30 hours is required in related area departments.

Evaluation of social work transfer credits will be done by a social work adviser on an individual basis.

Related Area Requirements

The following courses, or their alternatives, are required:

Biology

One course from the following:

- 110 (1102)**, Human Biology
113 (1131), Human Physiology and Anatomy I
114 (1141), Human Physiology and Anatomy II
115, Human Heredity and Evolution
120 (1202), Environmental Biology
Econ 40 (1000), Introduction to the American Economy
PolSci 11(1100), Introduction to American Politics
Psych 3 (1003), General Psychology

Sociology

- 10 (1010)**, Introduction to Sociology
160 (2160), Social Psychology
220 (3220), Sociological Statistics

Either

- Sociology 230(3230)**, Research Methods and
231(3231), Research Methods Lab or
Social Work 330(4400), Research Design in Social Work

At least 9 additional hours must be taken in social work, sociology, political science, psychology, women's and gender studies, anthropology, criminology and criminal justice, or economics at the 100 level or above. Hours taken in social work will apply toward the maximum of 50 hours that may be taken in social work courses. The social work department may require students to pass a placement test to enroll in the next level course, provided this test or its equivalent is administered to all students seeking to enroll in that course.

Social work majors must have a cumulative grade point average of 2.5 or better in all course work specifically required for the major, with satisfactory grades in practicum.

Note Taking anthropology, biological sciences, economics, and Spanish courses is strongly recommended by graduate social work schools.

Requirements for the Minor in Social Work

Candidates must complete the following social work courses:

- 100 (1100)**, Social Work and Social Problems
150 (1200), Social Welfare as a Social Institution
210(3100), Interventive Strategies in Social Work Practice
285(3400), Social Issues and Social Policy Development
 and one additional social work course at the 200 level or above..

Graduate Studies

Master of Social Work

Admission Requirements

Admission to the M.S.W. Program requires admission to the University of Missouri-St. Louis Graduate School and acceptance by the Department of Social Work. Applicants to the program must meet the following requirements to be considered for admission:

- Completion of a bachelor's degree from a college or university accredited by a recognized regional accrediting organization
- Completion of a liberal arts education including courses in the humanities, the social and behavioral sciences, and the physical sciences, including a course in human biology.
- Attainment of a cumulative grade point average of at least 2.75 on a 4.0 scale for all undergraduate course work and attainment of a grade point average of 2.75 on a 4.0 scale in the major field.
- Submission of the following documents by the admission deadline:
 1. Three letters of reference.
 2. A completed application to the UM-St. Louis Graduate School and a completed M.S.W. supplemental application
 3. Three written essays.
 4. Official transcripts from all colleges and university attended.
 5. Applicable fees.

Application Deadline

The deadline for application to the MSW program is March 15 for admission in the following fall semester.

Admissions to the Advanced Standing Program

Applicants with a B.S.W., B.A.S.W., or B.S.S.W., from an accredited social work program may be given up to 24 credit hours of advanced standing for foundation social work courses. Admissions to the advanced standing program is available to applicants who meet the general admission requirements and who: (1) have earned a bachelor's degree in social work accredited by the Council on Social Work Education within five years of applying to the M.S.W. Program, and (2) have earned a grade point average of at least 3.0 on a 4.0 scale in the social work

foundation curriculum, and no less than a B in all courses that are applicable.

Course Waivers

A student who does not have a bachelor's degree in social work but who can document successful completion (with at least a B) of foundation courses from an accredited B.S.W. program within the last five years will be given course waivers and be allowed to take electives instead of these courses.

Students from nonaccredited B.S.W. programs or students who have taken comparable course work in other undergraduate programs may take place-out examinations for select foundation courses; waivers will be given if students successfully pass place-out examinations. The waiver does not provide graduate credit; it is a mechanism for allowing elective courses to be substituted for required foundation courses.

Academic credit cannot be given for life experience and previous work experience, in whole or in part, in lieu of field practicum or foundation year courses.

Degree Requirements

The M.S.W. is a two-year program comprising a foundation year and a concentration year. All students are required to take the foundation year courses. These provide a common base of knowledge across all practice settings and populations. Beyond the general requirements of the Graduate School, the department requires a minimum of 60 semester hours of course work, of which 45 must be at the 400 level and 45 must be in social work or crosslisted with social work, including the following foundation courses:

- 315(4100), Diversity and Social Justice
- 410(5200), Social Policy and Social Services
- 418(4200), Foundations of Human Behavior in the Social Environment
- 430(5100), Generalist Social Work Practice
- 431(4250), Social Work and Human Service Organizations
- 432(5300), Community Practice and Social Change
- 440(4400), Research Methods and Analysis I
- 449(5400), Research Methods and Analysis II
- 489(5801), Graduate Field Practicum Seminar
- 490(5800), Graduate Field Practicum I

Upon completion of the 30 credits of foundation year requirements, students move into a year of specialization, called the concentration. The concentration year requires 30 hours of course work that includes 9 hours of elective graduate-level courses approved by the adviser. Students plan their degree program to reflect their career interests in the following concentration areas:

- Family Practice
- Organizations and Community Development

To remain in good standing, students must maintain a cumulative GPA of 3.0 or better.

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 (three days of full-time work per week) in both the fall and winter semesters in the concentration year.

A student must receive a grade 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. degree.

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:

100(1100), 150(1200), 210 (3100), 28 (4200), 285(3400), 290(3900), 312(4601), 315 (4100), 316, 322(3602), 350(4900), 376(5600), 390 (4950)

100(1100) Social Work and Social Problems (3)

Prerequisite: Sociology 10 (1010) or Psychology 3 (1003). Examination of the network of social programs and services developed in response to social problems in modern urban communities and the various roles and functions performed by helping professions. Introduction to basic values, skills, and training involved in a helping relationship, as well as characteristics of clients seeking help and professionals engaged in the helping process.

150(1200) Social Welfare as a Social Institution (3)

Prerequisite: Social Work 100 (1100) or consent of instructor. A study of the: 1) development of social welfare services and the philosophy underlying the present practices and systems; 2) present social welfare programs with particular emphasis given to public income-maintenance provisions; 3) special welfare needs of blacks, aged, women, Hispanics, and Native Americans; and 4) the development of social work as a profession. This course may be taken by non-social work majors.

151(1201) Social Welfare as a Social Institution Laboratory (1)

Prerequisites: Simultaneous with Social Work 150 (1200). The lab session will be used for field trips to social agencies. This course is required for all Social Work majors.

210(3100) Introduction to Interventive Strategies for Social Work Practice (3)

Prerequisites: Social Work 150 (1200), Sociology 10 (1010) and Psychology 03 (1003), or permission of instructor. A presentation of basic knowledge, skills, and theory used for entry-level professional practice, such as problem assessment, interviewing skills, crisis intervention, and referral procedures. The course objectives also will be to teach students how to help clients negotiate systems effectively, and to use resources, services, and opportunities.

280(4200) Human Behavior in the Social Environment (3)

Prerequisite: Biology 1 (1012) and Sociology 160 (2160) or Psych 160 (2160) or permission of instructor. This course will focus on the normative stages in the life span, specifically how human development is affected by the

physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social, and community systems.

285(3400) Social Issues and Social Policy Development (3)

Prerequisites: Social Work 150 (1200), PolSci 11 (1100), and Econ 40 (1000). The identification of issues concerning governmental provisions to meet contemporary social needs, with analysis of the principles and values underlying alternative solutions. A study of the processes by which citizen opinions and public policies evolve and are implemented in areas such as income maintenance, crime and delinquency, employment, family and child welfare, and public mental health.

290(3900) Selected Topics in Social Work Practice (3)

Prerequisite: Social Work 210 (3100) or Social Work 285(3400), or consent of instructor. A course examining special topics in social work practice. Relative theories, strategies, and skills will be presented for topics selected. Course may be taken more than once for credit as different topics are offered.

300(3200) Interventive Strategies for Social Work with Individuals, Families, and Groups (3)

Prerequisites: Social Work 210 (3100), and Social Work 280 (4200). This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in Social Work 210 (3100). It builds on the generalized helping model, incorporating specialized skills for working with specific groups of clients (e.g., children, aged, mentally ill, and physically handicapped), with families and small groups.

305(3300) Interventive Strategies for Social Work with Organizations and Communities (3)

Prerequisites: Social Work 285(3400) taken prior to or concurrently, senior standing. Continuation of basic practice skills with emphasis given to analysis and intervention at the organization and community levels. Includes assessment of available services, organization of client groups, efforts to modify resources for a client group unable to intervene effectively on its own behalf. Also emphasis on helping the practitioner evaluate the impact of intervention.

310(3601) Abused and Neglected Children (3)

Prerequisite: Social Work 280 (4200) or equivalent. This course explores the major concepts necessary for understanding abused and neglected children and their families. Emphasis is placed on (1) defining the problem, including societal stresses which contribute to the abuse and neglect; (2) examining existing practice methods; and (3) understanding the role of the social worker on interdisciplinary teams.

312(4601) Women's Social Issues (3)

Prerequisite: Social Work 280 (4200) or equivalent. This course will help students become more sensitive to the social and welfare concerns of women. The topics include work, education, family responsibilities, violence against women, and special health and mental health service needs. Emphasis will be placed on understanding how social action can be used to bring about positive change.

315(4100) Diversity and Social Justice (3)

(Same as Sociology 315 (4100). Prerequisite: Sociology 10 (1010) or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

320(4800) Supervised Field Experience in Social Work I (4)

Prerequisites: Social Work 300 (3200) must be taken prior to or concurrently, Social Work 320A (4801) must be taken concurrently, consent of instructor. This course provides students practice experience in social service agencies. Students work at the agencies approximately 20 hours per week. The purpose of this experience is to familiarize students with agency operations. Selection of the agency is based on student education needs.

320A(4801) Integrative Field Experience Seminar I (2)

Prerequisites: Consent of instructor and concurrent registration in Social Work 320 (4800). This seminar provides an opportunity for students to integrate previous course work with their experience in social work agencies. Classroom discussion will emphasize direct practice issues.

321(4850) Supervised Field Experience in Social Work II (4)

Prerequisites: Social Work 320 (4800), Social Work 320A (4801), and consent of instructor. This is a continuation of agency practice experience. Students work at the agency approximately 20 hours per week and may continue at the same agency as Social Work 320A (4801), or change agencies with the consent of the instructor.

321A(4851) Integrative Field Experience Seminar II (2)

Prerequisites: Consent of instructor and concurrent registration in Social Work 321(4850). This seminar is a continuation of Social Work 320A (4801). Classroom

discussion will emphasize administration and community organization issues.

322(3602) Child Welfare Practicum Seminar (3)

Prerequisites: Social Work 320 (4800), and consent of instructor. This seminar allows students to integrate previous course work with their experience in child welfare agencies. Classroom discussion will emphasize core competencies needed for child welfare practice.

330(4400) Research Design in Social Work (3)

Prerequisites: Satisfaction of Math Proficiency requirement and Sociology 220 (3220). Students explore research concepts and procedures (hypothesis testing, sampling, measurement, and design) emphasizing issues in social work research. Students learn to collect, analyze and present data.

350(4900) Special Study (1-10)

Prerequisite: Consent of instructor. Independent study through advanced readings in method and philosophy on a topic of particular interest, or field research in an agency.

376(5600) Mental Health and Aging (3)

Prerequisites: Psychology 272 (2272), 373 (4373), or graduate student status. (Same as Psychology 376 (4376) and Gerontology 376 (4376). (MSW students normally take all foundation courses prior to enrolling in this course.) A survey of recent theory and research in mental health issues for older populations. The primary focus is on major Psychological disorders prevalent among the elderly and in treatment approaches for elders.

381A(5610) Mechanisms of Aging I: The Aging Body (1)

Prerequisites: Bio 1 or Bio 110 (1102) or equivalent. (Same as GER 300A (5610). (MSW students normally take all foundation courses prior to enrolling in this course). Introduces students with a social sciences/humanities background to the normal changes in the biology and chemistry of the aging human body.

381B(5611) Mechanisms of Aging II: The Aging Brain (1)

Prerequisites: GER 300A (5610), or SW 381A (5610), equivalent, or consent of instructor. (Same as GER 300A (5611) (MSW students normally take all foundation courses prior to enrolling in this course). Provides students with a social sciences/humanities background a basic introduction to the biology and chemistry of the aging human brain and nervous system.

381C(5612) Mechanisms of Aging III: Diseases of Aging (1)

Prerequisites: GER 300A (5610) and 300A (5611) or SW 381C (5611) and 381B (5611) or equivalents or consent of instructor. (Same as GER 300C (5612)). (MSW students normally take all foundation courses prior to enrolling in this course.) Provides students with a social sciences/humanities background with information on how diseases associated with aging exacerbate the effects of aging on the human body and mind.

382(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.

390(4950) Seminar in Social Work Issues (1-3)

Prerequisite: Consent of instructor. A variable-credit course examining current and future considerations in designing and implementing social work service and delivery arrangements. Issues will be selected according to interests of the class. Course may be taken more than once for credit as different topics are offered.

391A(4911) Management Issues in Nonprofit Organizations: Staff Management Issues (1)

Prerequisite: Junior Standing. (Same as Political Science 391A (4911) and Public Policy Administration 391A (4911)). This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; legal issues that affect these processes.

391B(4912) Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)

Prerequisite: Junior Standing. (Same as Political Science 391B and Public Policy Administration 391B (4912)). This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

391C(4913) Management Issues in Nonprofit Organizations: Financial Issues (1)

Prerequisite: Junior Standing. (Same as Political Science 391C (4913) and Public Policy Administration 391C (4913)). This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

394(4940) Leadership and Management in Nonprofit Organizations (3)

Prerequisite: Junior standing. (Same as PPA 394 (4940), Pol Sci 394 (4940), Soc 308 (4940)). Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

396(4960) American Philanthropy and Nonprofit Resources Development (3)

Prerequisite: Junior standing or consent of instructor. (Same as Political Science 396 (4960) and Public Policy Administration 396 (4960)). This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

398(4398) Child Maltreatment: A Multidisciplinary Approach (3)

(Same as Psy 398(4398)). Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of Psychology and social work are provided.

399(4399) Seminar: Child Sexual Abuse (1)

(Same as Psy 399(4399)). Provides intensive study in interviewing, legal issues, assessment, medical issues, and therapeutic intervention in cases of child sexual abuse.

410(5200) Social Policy and Social Services (3)

Prerequisite: Social Work 285(3400) or PolSci 242(2420) or PolSci 246(3460) or equivalent or admission to the MSW program. Covers the history and development of social welfare policies, legislative processes, and existing social welfare programs. Examines frameworks for social policy analysis, analyzes how social and economic conditions impact the process of social policy development and implementation, and introduces policy practice in social work.

417(6417) Income & Pension Policy for the Aged (3)

Prerequisites: Graduate standing or consent of instructor. (Same as PPA 417(6417), GER 417(6417) and Pol Sci 417(6417). (MSW students normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

418(4200) Foundations of Human Behavior in the Social Environment (3)

Prerequisites: Social Work 280(4200) or equivalent or admission to the MSW program. Focuses on theoretical and empirical understanding of human behavior in the social environment using a life-span perspective. Introduces biological, behavioral, cognitive, and sociocultural theories of individuals, families, and small groups, and their implications for the professional social worker's understanding of socioeconomic status, gender, disability, ethnicity, race, and sexual orientation.

430(5100) Generalist Social Work Practice (3)

Prerequisite: Social Work 300(3200) or equivalent or admission to the MSW program. Using a problem-solving approach, students develop theoretical and empirical understanding and practical application of generalist social work methods. Students gain knowledge and skills that include interviewing, assessment, crisis and short-term intervention, contracting, resource development, and case documentation needed for competent direct practice with diverse populations.

431(4250) Social Work and Human Service Organizations (3)

Prerequisites: SW 280(4200) and 305(3300) or Psych 318(3318) or Bus Admin 311(3611) or equivalent or admission to the MSW program. Students develop theoretical and empirical understanding of groups and organizations, including concepts such as power and authority, structure, goals, membership, leadership, motivation, technology and organizational culture. Using organizations as settings for social work practice and as targets for change, students learn strategies and skills for assessment and intervention.

432(5300) Community Practice and Social Change (3)

Prerequisites: SW 305(3300) or Sociology 344(4344) or equivalent or admission to the MSW program. Focuses on economic, social, and political theory and research on communities and social change. Examines conceptual models of community practice within the generalist model and develops skills in organizing, advocacy, and planning.

435(5630) Diagnosis and Related Pharmacology for Social Work Practice (3)

Prerequisites: SW 430(5100) or equivalent or consent of instructor. Designed for social work students, course will provide overview of development and treatment of selected mental health disorders classified by the *Diagnostic and Statistical Manual of Mental Disorders*. In particular, course will examine, from a systems perspective, psychological and neuropsychological etiologies of mood, psychotic, personality, and other disorders and their preferred pharmacological treatment.

440(4400) Social Work Research Methods and Analysis I (3)

Prerequisites: Social Work 330(4400) or Sociology 230(3230) and 231(3231) or equivalent and Sociology 220(3220) or equivalent or admission to the MSW program. The first of a two-course sequence designed to provide students with the knowledge base and skills for using scientific method to advance social practice, knowledge and theory. Focuses on research methods at different levels (e.g., individual, group, organization, and community). Covers quantitative and qualitative methods, research design, sampling, measurement, use of results, impact of research, and ethical considerations.

443(6443) Health Care Policy (3)

Prerequisites: Graduate standing or consent of instructor. (Same as Pol Sci 443(6443), GER 443(6443) and PPA 443(6430). (MSW students will normally take the social policy foundation course prior to enrolling in this course.) Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444(5640) School Social Work (3)

Prerequisites: SW 430(5100) or equivalent or graduate standing and consent of instructor. Examines role of social worker in school settings and includes work with youth, families, and communities in relation to the child or adolescent's functioning in school.

449(5400) Social Work Research Methods and Analysis II (3)

Prerequisites: Social Work 440(4400) or equivalent. Advanced course, focusing on analysis of qualitative and quantitative data to advance social work practice, knowledge and theory. Students learn to use and interpret various statistical procedures for analyzing quantitative data, including bivariate and multivariate analysis, and content and statistical analysis for qualitative data. Students apply these analytic techniques to social work case material using computer software applications.

450(6100) Theory and Practice with Children and Youth (3)

Prerequisite: SW430(5100) or equivalent or consent of instructor and graduate standing. Examines theory and empirically-based assessment and intervention models for work with children and adolescents: The effects of family, peers, and societal context (e.g., poverty, racism) will be stressed in understanding youth problems such as drug abuse, academic failure, delinquency, adolescent pregnancy, and gang participation. The course will emphasize a multi-disciplinary approach using inter-agency collaboration and negotiation skills.

451(6150) Theory and Practice with Families (3)

Prerequisites: SW 430(5100) or equivalent, graduate standing and departmental approval. Examines theoretical approaches to social work with families, including the impact of the social environment. Skills will include assessment, and multidisciplinary intervention with multi-problem families. Special emphasis will be given to poverty, chemical dependency, intra-familial violence, physical and mental illnesses, and working with family members of diverse cultures, socioeconomic backgrounds, races, sexual orientation, and ability. Values and ethics will be emphasized.

452(6200) Family Policy (3)

Prerequisites: SW410(5200) or equivalent or consent of instructor and graduate standing. (Same as PolSci 416(6416) and Soc 452(6200)). Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

455(6491) Strategic and Program Planning for Nonprofit Organizations (3)

Prerequisites: Graduate standing or consent of instructor. (Same as PolSci 491(6490) and PPA 455(6550). Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan

for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

461 Human Services Leadership and Management (3)

Prerequisites: Graduate standing. Addresses leadership and management in public and nonprofit human service agencies, focusing on the role of the social work practitioner as administrator. Students will be introduced to theory and practice in human service organization and program planning, management, and development. Specific skill areas include strategic planning, volunteer management, team building and conflict management, fund development, leadership, information technologies, community relations, and evaluation in human service organizations. Attention will be given to social work values and ethics and effective practice with a diverse workforce and constituencies.

462(6250) Social and Economic Development Policy (3)

Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. (Same as PolSci 418(6418)). Examines major trends and alternatives in social and economic development policy and practice in state, national, and international perspectives. Students will develop skills in policy analysis and development.

469(6449) Human Resources in the Public Sector (3)

Prerequisites: PPA 460(6600) or consent of instructor. (Same as PolSci 449(6449) and PPA 449(6490). Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

473(6400) Practice and Program Evaluation (3)

Prerequisites: SW 440(4400) and 449(5400) or equivalent or consent of instructor and graduate standing. Provides specialized knowledge in the use of qualitative and quantitative research skills to evaluate the effectiveness of social work practice. Topics will include single system design, group designs, and program evaluation. Students will design and conduct a research project associated with their advanced social work practicum. Results will be presented to the class and the agency. Value and ethical issues, particularly those relevant to client race and gender, will be emphasized as students develop and conduct their research.

489(5801) Foundation Field Practicum Seminar (2)

Prerequisite: Graduate standing and consent of instructor. Integrates academic content from foundation course work and experiential learning in field placements. Goals are to conceptualize the problem solving process in field practice, synthesize theory into a social work approach that encourages creative use of self, and underscore ethics and service to diverse groups in practice.

490(5800) Graduate Field Practicum I (2-4)

Prerequisites: Graduate standing and consent of instructor. Provides integrative field experience in generalist social work practice. May be taken for 2-4 hours' credit depending on time in agency during semester; 50 contact hours=1 credit hour. May be repeated once.

491(6800) Graduate Field Practicum II (2-6)

Prerequisites: SW 489(5801) and SW 490(5800). Provides integrative field experience in students' graduate social work practice concentration. May be taken for 2 to 6 hours' credit depending on time in agency during semester; 55 contact hours=1 credit hour. May be repeated once and/or taken concurrently with SW 492(6850).

492(6850) Graduate Field Practicum III (2-6)

Prerequisites: SW 491(6800). Provides advanced integrative field experience in students' graduate social work practice concentration. May be taken for 2 to 6 hours' credit depending on time in agency during semester; 55 contact hours=1 credit hour. May be repeated once and/or taken concurrently with SW 491(6800).

495(6900) Directed Study in Professional Social Work (1-10)

Prerequisites: Graduate standing and consent of instructor. Independent graduate-level study on a topic of particular interest through readings, reports, and field work under faculty supervision.

499(6950) Advanced Seminar in Professional Social Work (1-3)

Prerequisites: Graduate standing and consent of instructor. Focused study on selected issues, concepts, and methods of professional social work practice. May be taken more than once for credit provided the course topic is different each time.

Department of Sociology

Faculty

Nancy Shields, Associate Professor*, Chairperson

Ph.D., Southern Illinois University-Carbondale

George J. McCall, Professor*

Ph.D., Harvard University

Herman W. Smith, Professor*

Ph.D., Northwestern University

Harry H. Bash, Associate Professor Emeritus*

Ph.D., University of Pennsylvania

Sarah L. Boggs, Associate Professor Emerita*

Ph.D., Washington University

Chikako Usui, Associate Professor*

Ph.D., Stanford University

Teresa J. Guess, Assistant Professor

Ph.D., University of Missouri-Columbia

Susan Tuteur, Adjunct Assistant Professor

Ph.D., University of Chicago

Robert Keel, Lecturer

M.A., Washington University

Adinah Raskas, Lecturer

M.A., Saint Louis University

*members of Graduate Faculty

The faculty prides itself on its commitment to high standards of teaching and sound scholarly research. Systematic course evaluations by students each semester are taken seriously, and individual faculty have been singled out as nominees and recipients of university Excellence in Teaching awards. The ongoing scholarly research of the faculty is reflected in the department's upper-level and graduate courses, as well as in the numerous publication credits of faculty in journals and books or presentations at national and international meetings. Information on current academic activities of the faculty is posted on the departmental Web page <http://www.umsl.edu/~sociolog>.

General Information

Degrees and Areas of Concentration

The sociology department offers courses leading to the B.A. in sociology and the B.S. in sociology; in cooperation with the College of Education, the B.A. in sociology with teacher certification; in cooperation with the College of Business Administration, the B.A. in sociology with a business option; and cooperative minor or certificate programs in American studies, black studies, legal studies, urban studies, religious studies, women's and gender studies, and international studies.

Students completing the B.A. or B.S. degree in sociology are well-prepared for graduate study in sociology or careers in industry, health and social services, and urban, intergroup, political, or community issues. Since the

sociology department also offers work leading to the M.A. degree in sociology (see below), opportunities are available for graduate-level instruction to selected undergraduate students. The graduate emphasis areas include (1) demography and population; (2) social problems and social change; (3) social and family networks; and (4) applied analysis, measurement, and program evaluation.

In addition to a balanced program of basic undergraduate to advanced graduate courses, the department provides a range of opportunities for students to develop specialized research methods seminars, and internship placements are offered in support of this goal and are typically designed around the ongoing research interests of department faculty. The department provides students with opportunities for intensive direction and guidance from faculty. Students and faculty working in particular subject areas consult freely with members working in other areas. Research interests of sociology faculty extend beyond the department into a wide variety of joint projects with faculty in other departments and programs, including criminology and criminal justice, engineering, political science, trauma studies, women's and gender studies, gerontology, public policy research centers, and the Center for International Studies.

A minor in sociology at UM-St. Louis is available to students majoring in related areas.

Undergraduate Studies

General Education Requirements

Students must satisfy the university and college general education requirements. Courses in sociology may be used to meet the social science requirement. The foreign language requirement for the B.A. degree may be satisfied in any language. Not more than 12-15 hours of community college transfer credit may be applied toward the combined minimum of required credit hours for the B.A. (31 credit hours) or B.S. (37 credit hours) major. No course in which a grade below a C- is received will count toward satisfying the core requirement.

Satisfactory/Unsatisfactory Restrictions Sociology majors may not take courses counting toward their major requirements on a satisfactory/unsatisfactory basis.

Degree Requirements

Bachelor of Arts in Sociology

In addition to specific baccalaureate degree requirements of the College of Arts and Sciences, candidates must complete 31 hours of sociology course credit including the following required core courses:

10(1010), Introduction to Sociology

210(3210), Sociological Theory

220(3220), Sociological Statistics, or
Math 31(1310), Elementary Statistical Methods, or
Math 102(1102), Finite Mathematics I, or **Math
105(1105)**, Basic Probability and Statistics
230(3230), Research Methods
231(3231), Laboratory in Research Methods

Note The core requirements should be completed as early as possible, preferably by the end of the junior year. Sociological Statistics is a prerequisite for research methods. Only 45 hours of sociology can be applied to the 120 hour total required for a degree from the University of Missouri-St. Louis.

For the B.A. in sociology candidates are required to take the core courses and at least 18 additional hours of sociology courses, selected according to career objectives, with at least six hours at the 300 level (no more than three hours of either Soc 350(4350), Special Study or Soc 385(4385), Internship in Sociology may be applied to this 300 level requirement). No more than three hours in sociology below the 100 level can count towards this 18-hour requirement. Applied training through one or more research courses may be used as part of the requirement for the major.

Bachelor of Science in Sociology

For the B.S. in Sociology, candidates are required to take the core courses and complete the following requirements.

1. Six credit hours from sociology research courses such as:
298(3298), Practicum in Field and Laboratory Research
304(4040), Survey Research Practicum
330(4330), Field Research in Crime and Deviance
331(4331), Qualitative Methods in Social Research
346(4646), Demographic Techniques
370(4370), Selected Topics in Techniques of Sociological Research

Courses in other departments may be applied to the required six hours of research courses with the written consent of the student's faculty advisor.

Some 300 level sociology courses can count as research courses with the written consent of the student's faculty advisor and the instructor.

2. Six additional sociology courses (18 hours), chosen with the approval of the student's faculty advisor, are required for the B.S. degree in sociology, including a minimum of two courses (six hours) at the 300 level (no more than three hours of either Soc 350(4350), Special Study or Soc 385(4385), Internship in Sociology may be applied to the 300 level requirement). No more than three hours in sociology below the 100 level can count toward this 18-hour requirement.

Related Area Requirements:

Candidates for the B.S. in sociology also must complete five courses from at least four of the following nine areas: computer science, economics, mathematics, philosophy, political science, probability and statistics, psychology, public policy administration, and international studies. Specific course selections must be approved by a faculty advisor.

Combined Degree: Bachelor of Science in Civil Engineering and Bachelor of Science in Sociology

Students pursuing the combined degree are simultaneously enrolled in the College of Arts and Sciences and the Joint Undergraduate Engineering Program. They have an engineering faculty adviser as well as a faculty adviser in the Department of Sociology.

A program of 159 semester hours is required for the B.S. in civil engineering and the B.S. in sociology. Earned alone, the B.S. in engineering requires 137 semester hours. Because of the overlap in required courses for the two curricula, the combined degree program requires only 22 additional semester hours.

For additional information, see the section in this *Bulletin* labeled UM-St. Louis/Washington University Joint Undergraduate Engineering Program or contact: Associate Dean of the Joint Undergraduate Engineering Program, 228 Benton Hall, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121.

B.A. or B.S. in Sociology with Teacher Certification
Students must complete the B.A. or B.S. in sociology requirements, as well as the requirements for teacher certification. (See the College of Education section of this *Bulletin*.)

B.A. or B.S. in Sociology with an Interest in Business
The following courses are suggested for students seeking careers in sales, market research, and so forth. In addition to the B.A. or B.S. in sociology requirements, the following core courses are suggested:

Econ 51(1001), Principles of Microeconomics
Sociology 346(4646), Demographic Techniques
BA 140(2400), Fundamentals of Financial Accounting

Students may then choose to complete one of the following three sets of courses:

1) Marketing Management
206(3700), Basic Marketing
275(3740), Marketing Intelligence
303(3760), Industrial Marketing

2) Financial Management
204(3500), Financial Management
334(3520), Investments

350(3501), Financial Policies**3) Accounting**

145(2410), Managerial Accounting

340(3401), Intermediate Accounting I

345(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 300 level (no more than 3 hours of either Soc 350(4350), Special Study, or Soc 385(4385), Internship may be applied to this 300 level requirement).

Candidates who anticipate that their background in sociology may play a substantial role in their career plans are strongly encouraged to take some or all of the core requirements.

Candidates must have a cumulative grade point average of 2.0 or better in all courses pertaining to the minor. Department courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Department Awards

The department offers several annual awards to outstanding students on the basis of merit.

The Ray Collins Alumni Award is given annually by the Sociology Alumni Association to the top graduating senior. The awardee is selected by the faculty on the basis of GPA, and the award consists of first-year membership dues in the Sociology Alumni Association and a cash award.

Honors Program Student Association Awards are given annually to exceptional students. The awards include student affiliate memberships in the Honors Program Student Association of the American Sociological Association to aid the establishment of a network of colleagues who are at similar points in their career development.

The Alumni Agent Scholarship and the Sociology Alumni Scholarship are given to deserving sociology majors annually. The awardees are selected by the faculty on the basis of merit.

A series of undergraduate awards are given to outstanding students. The Freshman Sociology Award is given to the outstanding freshman student in lower-division sociology course work; the Outstanding Junior Sociology Major Award is given to the outstanding junior sociology major; the Outstanding Sociology Minor Award is presented to the graduating student with the most outstanding minor GPA record; and the Outstanding Sociological Statistics

and Methods Award is given to the sociology major with the best overall record in Sociology 220(3220), 230(3230), and 231(3231). This award carries a stipend for the student to serve as an undergraduate course assistant for Sociology 220(3220), or 230(3230) and 231(3231).

Department Honors

The sociology department will award department honors for those B.A. and B.S. degree candidates in sociology with an overall grade point average of 3.2 or better. They must also successfully complete an independent study through Soc 350(4350), Special Study.

Graduate Studies**2+3 B.A. and M.A. in Sociology**

The 2+3 combined B.A./M.A. program in sociology provides an opportunity for students of recognized academic ability and educational maturity to fulfill integrated requirements of the undergraduate and master's degree programs from the beginning of their junior year. Because of its accelerated nature, the program requires the completion of some lower-division requirements of (12 hours) before entry into the three-year portion of the program. When all the requirements of the B.A. and M.A. programs have been completed, the students will be awarded both the baccalaureate and master's degrees. A carefully designed program can permit a student to earn both degrees within as few as ten semesters.

The combined program requires a minimum of 138 hours, of which 30 must be at the 300 or 400 levels. In qualifying for the B.A., students must meet all University and college requirements, including the requirements of the undergraduate major described previously. During the junior and senior years, students normally take a 300 level research practicum course, Sociology 400(5400), Sociology 402(5402), and Sociology 404(5404). In qualifying for the M.A., students must meet all University and Graduate School requirements, including satisfactory completion of a minimum of 30 graduate credit hours. Up to 12 graduate credit hours may be applied simultaneously to both the B.A. and M.A. programs. Any 300 level course applied to the M.A. requirements will require additional work to qualify for graduated credit.

Students should apply to the Graduate Director of the Department of Sociology for admission to the 2 + 3 combined degree program in sociology the semester they will complete 60 undergraduate degree credit hours, but no later than the accumulation of 90 credit hours. A cumulative grade point average of 3.0 or higher, satisfactory scores on the general aptitude test of the Graduate Record Examination, and three letters of recommendation from faculty are required for consideration. Students will be admitted to the 2 + 3 programs under provisional graduate status until they have completed 30 credit hours with a grade point average of

3.0 or higher. After completion of the provisional period, and with recommendation of the Graduate Director, students can be granted full admission into the program. Students must maintain a grade point average of 3.0 or higher throughout the combined program. Students who officially withdraw from the 2 + 3 combined degree program will be awarded the B.A. degree when they have successfully completed all the requirements for the degree.

The following requirements must be completed prior to enrolling in the 2 + 3 program:

010(1010) Introduction to Sociology and three additional sociology courses.

The following UNDERGRADUATE courses are required for majors in the 2 + 3 program:

210(3210), Sociological Theory
220(3220), Sociological Statistics (or an approved statistics course)
230(3230), Research Methods
231(3231), Laboratory in Research Methods

GRADUATE SOCIOLOGY REQUIREMENTS FOR STUDENTS IN THE 2 + 3 PROGRAM

The following GRADUATE courses are required at the 300 to 499-level:

1. Sociology 400(5400), Proseminar in Sociology
2. Sociology 402(5402), Advanced Quantitative Techniques
3. Sociology 404(5404), Advanced Methodology
4. Five additional courses (15 hours) that have been approved by the Graduate Director

Graduate Exit Requirements:

A student's program must include one of the following exit projects: a 6-hour internship (Sociology 480(5480), Individual Study) or a 6-hour preparatory sequence and an approved paper (Sociology 490(5490), Supervised Research). Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

M.A. in Sociology

The department offers a flexible program of studies leading to the Master of Arts degree in sociology. Course work combines intensive examination of the core areas of sociology with acquisition of the analytical skills of sociological investigation. A variety of career options are available to the master's-level graduate, including: program evaluation and research; field or case work related to community issues; administrative roles in social agencies and planning organizations; or doctoral studies in sociology or related fields.

The curriculum is designed to serve the needs of full-time students as well as working students who are able to engage only in part-time studies. This design allows pre-career and mid-career students to prepare for employment in education, service agencies, community organizations, government agencies, or businesses. The curriculum also invites students to take advantage of the university's urban setting through integration of selected work experiences with practicum courses and academic seminars under faculty guidance. The curriculum emphasizes theoretical, analytic, and substantive approaches to urban-related problem solving.

Admission Requirements

Individuals with at least the equivalent of the department's B.A. or B.S. degree in sociology may be admitted to the Graduate School as candidates for the M.A. degree. Students with bachelor's degrees in fields other than sociology may be admitted to pursue graduate sociology studies under the condition that they make up core deficiencies prior to graduate work.

In addition to meeting the general admission requirements of the Graduate School, a student should ordinarily have:

- A baccalaureate degree with a minimum grade point average of 3.00.
- At least 15 hours in the social sciences, of which 12 should be in upper-level courses.
- Three letters of recommendation from persons qualified to judge the candidate's potential for success in the program.
- A statement describing the applicant's interest in graduate study in sociology.

Students who do not meet these requirements may be provisionally admitted upon approval of the department and the dean of the Graduate School. Admission and financial aid decisions are made on the basis of past academic record, program performance, and career commitment. Students wishing to continue regular employment outside the university may enroll on a part-time basis. Requests for further information about the program should be sent to:

Director of Graduate Studies
Department of Sociology
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Students admitted to the program are assigned a graduate adviser from whom they should obtain a copy of the *Graduate Student Handbook* and with whom they should consult periodically on academic and career considerations.

Degree Requirements

Master of Arts in Sociology Each student shall prepare an adviser-approved course of study during the first semester of enrollment. Candidates for the M.A. degree shall complete a minimum of 30 hours of approved study, at least 21 of which must be taken in courses offered by the department.

Core Curriculum

- 400(5400), Proseminar in Sociology
- 402(5402), Advanced Quantitative Techniques
- 404(5404), Advanced Methodology

The sociology department participates in a joint quantitative techniques and methodology series of courses with the other social sciences which can be substituted for the above.

Concentration The department offers opportunities for intensive work in one of the several research areas of department faculty members, which allows the flexibility for comprehensive and coherent exposure to the methods and insights of the discipline. Matriculating students are encouraged to plan, with their advisers, a coherent program of studies consistent with their career interests.

Exit Requirements A student's program must include one of the following exit projects: a 6-hour internship; **Sociology 480(5480)**, Individual Study or a 6-hour preparatory sequence and an approved paper **Sociology 490(5490)**, Supervised Research. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

Career Outlook

The following career information is adapted from the American Sociological Society Web site. For more information, see <http://www.asanet.org/>.

A BA or BS in sociology is excellent preparation for graduate work in sociology for those interested in an academic or professional career as a professor, researcher, or applied sociologist.

The undergraduate degree provides a strong liberal arts preparation for entry level positions throughout the business, social service, and government worlds. Employers look for people with the skills that an undergraduate education in sociology provides. Since its subject matter is intrinsically fascinating, sociology offers valuable preparation for careers in journalism, politics, public relations, business, or public administration fields that involve investigative skills and working with diverse groups. Many students choose sociology because they see it as a broad liberal arts base for professions such as law,

education, medicine, social work, and counseling. Sociology provides a rich fund of knowledge that directly pertains to each of these fields.

The MA offers students access to an even wider variety of careers. Sociologists become high school teachers or faculty in colleges and universities, advising students, conducting research, and publishing their work. Over 3000 colleges offer sociology courses. Sociologists enter the corporate, non-profit, and government worlds as directors of research, policy analysts, consultants, human resource managers, and program managers. Practicing sociologists with advanced degrees may be called research analysts, survey researchers, gerontologists, statisticians, urban planners, community developers, criminologists, or demographers. Some MA sociologists obtain specialized training to become counselors, therapists or program directors in social service agencies.

Today, sociologists embark upon literally hundreds of career paths. Although teaching and conducting research remains the dominant activity among the thousands of professional sociologists today, other forms of employment are growing both in number and significance. In some sectors, sociologists work closely with economists, political scientists, anthropologists, Psychologists, social workers and others reflecting a growing appreciation of sociology's contributions to interdisciplinary analysis and action.

Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

10(1010), 40(1040), 75(1075), 99(1999), 100(2100), 102(2102), 103(2103), 160(2160), 180(2180), 200(3200), 202(3202), 210(3210), 214(3214), 220(3220), 224(3224), 230(3230), 231(3231), 241(3241), 245(3245), 250(3250), 262(3262), 268(3268), 278(3278), 280(3280), 286(3286), 290a(3290a), 290b(3290b), 290c(3290c), 300(4300), 304(4040), 308(4940), 310(4310), 312(4312), 314(4314), 315(4100), 316(4316), 317(4317), 320(4320), 331(4331), 336(4336), 338(4338), 340(4340), 342(4342), 344(4344), 346(4646), 350(4350), 352(4352), 354(4354), 356(4356), 360(4360), 361(4361), 370(4370), 375(4375), 378(4378), 380(4380), 394(4395).

10(1010) Introduction to Sociology (3) [V, SS]
An introduction to sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

40(1040) Social Problems (3) [V, SS]
Conditions defined by society as social problems, as well as potential solutions, are examined from various sociological perspectives. Emphasis is given to problem issues prevalent in metropolitan settings. Analyses focus on victims and beneficiaries of both problem conditions and alternative solutions.

99(1999) The City (3) [MI, V, SS]
(Same as Criminology and Criminal Justice 99, Political Science 99(1990), and Interdisciplinary 99(1990). Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is for freshmen and sophomores. It is open to juniors and seniors with the consent of instructor.

100(2100) Women in Contemporary Society (3)
Prerequisite: Sociology 10(1010) or Interdisciplinary 50 or consent of instructor. An introduction to the sociological analysis of the status of women in society, including their work, family, and political roles. Socialization, education, and the women's movement will also be considered, as these affect the position and participation of women in a variety of social arenas.

102(2102) Women, Gender, and Diversity (3)
Same as Interdisciplinary 102(2102) and Psychology 102(1102). An introduction to the study of women's roles

in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. Explores issues of power, identity, and relationships in women's lives.

103(2103) Sex Roles in Contemporary Society (3)
Prerequisite: Sociology 10(1010) or Interdisciplinary 50 or consent of instructor. The study of social processes through which sex roles are developed and acquired; the impact of gender and sex roles on personal identity and social conduct; the relationship between sex roles and social inequality; and individual and social consequences of changing sex roles in contemporary society.

160(2160) Social Psychology (3)
(Same as Psych 160(2160). Prerequisite: Sociology 10(1010). Study of the interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

180(2180) Alcohol, Drugs, and Society (3)
(Same as Criminology and Criminal Justice 180(2180).) Prerequisite: Sociology 10(1010) and or Psych 3(1003). This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

200(3200) Sociology of Deviant Behavior (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Theories of the nature, causes, and control of deviance as a social phenomenon. Application of theories to specific substantive areas, such as mental disorder, delinquency, drug abuse, suicide, unconventional sexuality, and physical disability.

202(3202) Urban Sociology (3)
Prerequisite: Sociology 10(1010) or consent of instructor. Urbanization as a world phenomenon; urban social and ecological structures and changing life styles; the decision-making processes in urban problem-solving.

210(3210) Sociological Theory (3)
Prerequisite: Sociology 10(1010) or consent of instructor. The nature of sociological theory. An investigation of theory from Comte through contemporary developments. Contributions made by theorists in related disciplines.

214(3214) Juvenile Delinquency and Youth Crimes (3)
Prerequisite: Three hours of 100 level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention.

220(3220) Sociological Statistics (3)

Prerequisites: Sociology 10(1010) and Math 20(1020) or 30(1030). Issues and techniques of statistical analyses relevant to quantitative sociological research, e.g., elementary probability, measurements of central tendency and dispersion, measures of relationships including linear regression and correlation, inferential statistics.

224(3224) Marriage and the Family (3)

(Same as Nursing 224(3224)). Prerequisite: Sociology 10(1010) or consent of instructor. The study of patterns of close relationships, and how these relationships are influenced by larger social forces. Topics include: love, dating, mate selection, cohabitation, alternative lifestyles, working families, parenting, single mothers, families in crisis, domestic violence, and divorce. Universal and variable aspects of family organization, family role systems, and changes in family social structure.

230(3230) Research Methods (3)

Prerequisites: Sociology 10(1010) and satisfaction of mathematics proficiency requirement and Sociology 220(3220) or consent of instructor. Research planning and interpretation, principles of research design, measurement, and sampling. Techniques for the collection, analysis, and presentation of data.

231(3231) Laboratory in Research Methods (1)

Prerequisite: Must be taken concurrently with Sociology 230(3230). Laboratory course to accompany Sociology 230(3230). The course will include practical experience in the conduct of research.

241(3241) Selected Topics in Macro-sociology (1-3)

Prerequisite: Sociology 10(1010) or consent of instructor. Examination of a specific topic that focuses on large-scale social systems and the structural relationships among social organizations and institutions. May be taken more than once for credit provided the topic of the course is different each time.

245(3245) Sociology of South Africa (3)

Prerequisite: Sociology 10(1010) or consent of instructor. An analysis of South African society as a sociocultural system, with attention to its demographic, ecological, and social structures; its distinctive social institutions and life styles; and the social dynamics of modernization, urbanization, and ethnicity. This course satisfies the Cultural Diversity requirement.

250(3250) Sociology of Victimization (3)

Prerequisites: Soc 10(1010). Examines the role of social factors in a wide range of kinds of victimization--crime, violence, natural disasters, accidents, disease, etc. The topic of social reactions to various kinds of victimization is also covered. Sociological theories of victimization are emphasized.

262(3262) Social Psychology of Urban Life (3)

Prerequisites: Soc 10(1010) or Psy 3(1003). Examines how people experience and give meaning to their lives as urban dwellers. Topics include: cognitive maps, crowding, sensory overload, lifestyle diversity, strangers, urban tolerance, social networks, segmentation of personal life, and quest for identity.

264(3264) The Sociology of Religion (3)

Prerequisite: Sociology 10(1010) or consent of instructor. Religion as a universal social institution, its development, forms, and influence in the world, including Western and Eastern religions. Sociological analysis of the effects of religion upon the individual and societies. Religion, its roles in social change, and contemporary trends.

268(3268) The Sociology of Conflict (3)

Prerequisite: Sociology 10(1010) or consent of instructor. The conditions under which social conflicts arise, develop, and are terminated (or in some cases resolved) are examined. The functions of different levels of conflict are studied to determine the potential effects and outcomes of planned intervention.

270(3270) Socialization (3)

Prerequisite: Sociology 10(1010) or consent of instructor. Analysis of the structural and social psychological aspects of roles and the self as a product of social interaction.

278(3278) Sociology of Law (3)

Prerequisite: Sociology 10(1010) or consent of instructor. A study of law and society with emphasis on the sociological analysis of specific problems of legal doctrines and legal institutions. The law is examined as an instrument of social control through study of the courts; the legal profession, the police, and various social institutions. Consideration is given to law as an instrument of social change.

280(3280) Society and Technology (3)

Prerequisite: Sociology 10(1010) or consent of instructor. Technology in industrial and post-industrial societies. The social shaping of technological systems. The role of technology in social change.

286(3286) Society, Arts, and Popular Culture (3)

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

290a(3290a), 290b(3290b), 290c(3290c) Undergraduate Seminar in Sociological Issues (3)

Prerequisites: Sociology 10(1010) and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by other undergraduate courses. May be taken up to three times for nine hours of credit, provided the subject matter is different each time the seminar is taken.

298(3298) Practicum in Field and Laboratory Research (1-3)

Prerequisites: Sociology 220(3220) and Sociology 230(3230), or consent of instructor. Intensive field or laboratory research to be taken subsequent to, or concurrent with, a specific substantive course. May be taken twice for credit.

Note: Any 300 level course taken for major elective credit requires prior completion of two of the following: Sociology 210(3210), Sociology 220(3220), or Sociology 230(3230).

300(4300) Communities and Crime (3)

(Same as Criminology and Criminal Justice 300(4300)). Prerequisite: Criminology and Criminal Justice 110(1110), 120(1120), 130(1130), 210(2210), 220(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.

304(4040) Survey Research Practicum (3)

(Same as Econ 304(4140) and PolSci 304(4040)). Prerequisites: Junior standing, Sociology 220(3220), Sociology 230(3230), and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. May be taken more than once for credit provided the course topic is different each time.

308(4940) Leadership and Management in Nonprofit Organizations (3)

(Same as SW 394(4940), PolSci 394(4940), and PPA 394(4940).) Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource

mobilizations; and program development management and evaluation.

310(4310) Selected Topics in Sociological Theory (1-3)

Prerequisite: Sociology 210(3210). Focused examination of selected issues, the contributions of individual theorists, and methodological implications in the study of sociological theory. May be taken twice for credit.

312(4312) Sociology of Wealth and Poverty (3)

Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. Theory and research on social stratification and inequality in contemporary societies.

314(4314) Social Change (3)

Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. Theories of social change applied to the analysis of small and large social systems, including the planning of change and projecting of alternative futures.

315(4100) Diversity and Social Justice (3)

(Same as Social Work 315(4100)). Prerequisites: Sociology 10(1010) or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

316(4316) Power, Ideology, and Social Movements (3)

Prerequisite: Sociology 10(1010) and Junior Standing or consent of instructor. Effect of events and social processes on thought and action in the twentieth century. Social functions of ideologies as expressed in movements and formal and informal organizations seeking social change.

317(4317) Social Psychology of Conflict and Negotiation (3)

(Same as Psychology 317(3317)). Prerequisite: nine (9) hours of Psychology or nine (9) hours of sociology, including Psych 160(2160) or Soc 160(2160). The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

320(4230) Forms of Criminal Behavior (3)

(Same as Criminology and Criminal Justice 320(4320).) Prerequisite: Criminology and Criminal Justice 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of, and responses to, these crimes.

330(4330) Field Research in Crime and Deviance (2-4)
Prerequisites: Soc 214(3214). Students will participate in individual or group research projects involving systematic data collection and sociological analysis concerning the causation or societal reaction to crime, delinquency, or related forms of deviance. One option available to students will be an opportunity to study organizations dealing with juvenile or adult offenders.

331(4331) Qualitative Methods in Social Research (3)
Prerequisite: Sociology 220(3220) and Sociology 230(3230), or their equivalent, or consent of instructor. This course is devoted to such qualitative methods as participant observation, intensive interview, content analysis, and oral history, among others. The place of these kinds of techniques in social research, as well as the issues raised by them, will be considered. Students will participate in individual or group research projects using one or more of the methods discussed.

336(4336) Organizations and Environments (3)
Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. Internal and external forces that influence the structures, adaptive flexibility, and actions of public and private organizations and agencies are examined. Specific foci include: organizational responses to environmental opportunities, constraints, and contingencies; sources of conflict and impediments to organizational goal attainment; and strategies for increasing organizational effectiveness, efficiency, and chances for survival.

338(4338) Sociology of Health (3)
(Same as Nursing 338(4338).) Prerequisites: Sociology 10(1010) and junior standing. Exploration of social dimensions and issues related to health and illness, such as access to the health care delivery system; factors influencing prevention, utilization and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

340(4340) Race, Crime, and Justice (3)
(Same as Criminology and Criminal Justice 340(4340).) Prerequisite: Criminology and Criminal Justice 110(1110), 120(1120), 130(1130), 210(2210), 220(2220), or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

342(4342) World Population and Ecology (3)
Prerequisites: Sociology 10(1010) and junior standing or consent of instructor. Sociological theories and research relating people to their ecological environments. Topics include fertility and population change in the non-Western

world. Emphasis is directed to population policies in e.g., Africa and India and China.

344(4344) Problems of Urban Community (3)
Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. The urban community as an area of social action and problem solving with emphasis on the sociological aspects of urban problems.

346(4646) Demographic Techniques (3)
Prerequisites: Sociology 220(3220) and Sociology 230(3230), or consent of instructor. Practicum experience with computation and analysis of major demographic measures of population size, growth, and shape; fertility; mortality; immigration; emigration; and morbidity. Special attention to comparisons of standard Western and non-Western demographic models, with emphasis on computer modeling.

350(4350) Special Study (1-10)
Prerequisite: Consent of instructor. Independent study through readings, reports, and field work.

354(4354) Sociology of Business and Work Settings (3)
Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. The sociology of work and occupations in America, Europe, and Asia; organization structures and worker participation; worker attitude, behaviors, and commitment; the socialization of the worker; determinants of worker behavior; social problems of work and business; and the impact of community on work place and business behavior.

356(4356) Sociology of Education (3)
Prerequisite: Sociology 10(1010) and junior standing, or consent of instructor. Education as a social institution, its role as an agent of socialization, and its effect upon the processes of social change and social mobility. The relationship between the school and its community.

360(4360) Sociology of Minority Groups (3)
Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. The study of dominant-subordinate group relations. Religion, ethnicity, race, and gender as factors in the unequal distribution of power.

361(4361) Social Gerontology (3)
(Same as Gerontology 361(4361).) Prerequisites: Sociology 10(1010) and junior standing, or consent of instructor. Topics include: sociological theories of aging, technological and social change and its effects on the environment of older people, and prejudice and discrimination against the elderly.

370(4370) Selected Topics in Techniques of Sociological Research (1-3)

Prerequisite: Sociology 220(3220), 230(3230), or consent of instructor. The study of a specific research technique used in sociological analyses. May be taken more than once for credit provided the course topic is different each time.

375(4375) The Social Psychology of Disabilities (3)

Prerequisite: Sociology 160(2160) or Psych 160(2160) or consent of instructor. (Same as Psychology 375(4375).) A social Psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

378(4378) Selected Topics in Social Psychology (1-3)

Prerequisite: Psych 160(2160) or Sociology 160(2160), or consent of instructor. Focused examination of selected issues, concepts, and methods in the study of social interaction. May be taken twice for credit.

380(4380) Selected Topics in Social Policy (1-3)

Prerequisite: Sociology 10(1010), Junior standing or consent of instructor. Examination of a specific sociological topic of current relevance in the community. May be taken more than once for credit provided the course topic is different each time.

385(4385) Internship in Sociology (1-6)

Prerequisite: Junior standing and consent of instructor. Students participate in supervised placements in a position related to the profession of sociology.

400(5400) Proseminar in Sociology (3)

Required of all entering graduate students in the fall semester of the first year of residency. An overview of the field of contemporary sociology, with emphasis on the major theories, issues, research approaches, and ethical problems in the field today, and an introduction to theory construction, measurement, and design strategies.

402(5402) Advanced Quantitative Techniques (3)

Prerequisite: Sociology 220(3220) or consent of instructor. A study of advanced quantitative analysis of sociological data, focusing on problems of multivariate analysis, sampling theory and techniques, and the use of electronic data processing in approaching these problems.

404(5404) Advanced Methodology (3)

Prerequisite: Sociology 230(3230) or consent of instructor. A study of methodological problems on an advanced level, focusing on contemporary issues in the processes of inquiry with particular emphasis on the applicability of different modes of research to various types of theoretical

problems. Consideration of ethical problems in social research.

406(5406) Research Practicum (3)

Prerequisites: Sociology 400(5400) and consent of instructor. Involvement of students in an individual or group project culminating in a report, in order to provide firsthand experience in integration of theoretical concerns, methodological principles, and appropriate research techniques in an empirical study, the subject of which shall be determined in collaboration with the instructor.

410(5410) Comparative Social Structures (3)

Prerequisite: Sociology 400(5400) or consent of instructor. Social institutions in selected societies are examined in terms of their similarities and differences. Typically, non-American and American social structures such as religion, education, politics, family, and economy are compared, along with population dynamics and change, myths, values, and norms. Societies are selected depending on specialty of faculty and interests of students. May be repeated for credit if the topic is different.

415(5415) Foundations of Criminological Theory (3)

(Same as Criminology and Criminal Justice 415(5415).) Prerequisites: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420(5420) Theories of Conflict (3)

Prerequisite: Sociology 400(5400) or consent of instructor. The conflict perspective in sociology is contrasted with consensus models of society. Conflict theorizing is traced from the Classical social thought tradition in Western civilization to its modern Marxist and non-Marxist formulations in contemporary sociology. Ethical implications for social conflict intervention are considered.

422(5422) Family and Interpersonal Conflict Resolution (3)

Prerequisite: Sociology 420(5420) or consent of instructor. The sources and functions of interpersonal conflict in family and neighborhood settings are analyzed. Mediation and conciliation strategies are developed in relation to primary and secondary structures, role systems, and social change.

424(5424) Conflict Management in Organizations (3)

Prerequisite: Sociology 420(5420) or consent of instructor. Intrinsic sources of inter- and intraorganizational conflict and related methods of mediation are examined. Conflict management strategies and situational manifestations of conflict are analyzed within the context of antecedent conditions, such as domain dissensus, differential interests and goals, previously unresolved disputes, unbalanced power relations, structural barriers to communications, internal and external competition for resources, and environmental change.

426(5426) Community and Regional Conflict Intervention (3)

Prerequisite: Sociology 420(5420) or consent of instructor. Community and regional conflicts are examined, with emphasis on paradigms for analyzing power, policy, and social change, and on developing intervention skills through simulation exercises. Intervention roles and approaches, such as mediation, conciliation, arbitration, and advocacy are discussed.

430(5430) Policy Mediation Processes (3)

Prerequisite: Sociology 426(5426) or consent of instructor. Sociological theories of conflict are applied to public issues and policy-making, with an emphasis on building analysis and practice skills. Processes of mediated problem solving are studied and applied to conflict between jurisdictions, between citizens and governments, and between public and private sectors.

432(5432) Survey Research Methods (3)

(Same as Ed Rem 432(6712), Pol Sci 406(6406). Prerequisites: An introductory statistics course (such as Soc 220(3220)) or consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

440(5440) Seminar in Urban Sociology (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

442(6442) Minority Aging (3)

(Same as Gerontology 442(6442). Prerequisite: Sociology 361(4361) or consent of instructor. The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

444(5444) Social Policy and Community Planning (3)

Prerequisite: Consent of instructor. Analysis of the formulation of policy as a social process with concentration on political as well as technical-rational elements. Relation of social policy formation to planning

at the community level and analysis of the elements and dynamics of community planning. Analysis of and exposure to planning agencies in the St. Louis metropolitan area.

445(6445) Sociological Dimensions of Chronic Illness (3)

(Same as Gerontology 445(6445). Prerequisite: Sociology 400(5400) or consent of instructor. The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

446(6446) Selected Topics in Health Care Policy (3)

(Same as Public Policy Administration 446(6460) and PolSci 446(6446). Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

449(5449) Issues in Retirement (3)

(Same as Gerontology 449(5449). Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States--its processes, causes, and consequences--in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

450(5450) Seminar in Social Psychology (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

452(6200) Family Policy (3)

(Same as PolSci 416(6416) and SW 452(6200) Prerequisites: SW 410(5200) or equivalent or consent of instructor and graduate standing. Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

460(5460) Seminar in Deviant Behavior (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of the instructor. Advanced theories of the nature, causes, and control of deviance as a social phenomenon.

461(5461) Law and Social Control (3)

(Same as Criminology and Criminal Justice 430(6430).)
Prerequisites: Graduate standing and consent of instructor.
Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

468(5451) Negotiating Workplace Conflict (3)

(Same as Mgt. 419(5612) and PPA 468(6680).
Prerequisites: PPA/Mgt. 460(6600), and Graduate Standing. Examines conflict and cooperation between individuals, groups, and organizations over control of work. A central theme is how this conflict is expressed, controlled, and resolved. Students participate in exercises to learn basics of two-party negotiations.

470(5470) Seminar in Sociological Issues (1-3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by one of the other 400-level courses. May be taken up to three times for up to nine hours of credit, provided the subject matter is different each time the seminar is taken.

475(5475) Introduction to Evaluation Research Methods (3)

(Same as Psych 475(5475), Public Policy Administration 475(6750), and Criminology and Criminal Justice 475(5475).) Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

476(5476) Research Practicum in Evaluation Research Methods (3)

Prerequisites: Sociology 475(5475) and consent of instructor. Instruction in, and supervision of, research design and data collection for evaluation of social-deviance action program research report. Concurrent with on-site participant observation.

480(5480) Individual Study (3)

Prerequisite: Consent of adviser and instructor. Designed to give the student the opportunity to pursue particular interests within the discipline and/or to study areas not currently covered by formal courses. Guided by faculty with appropriate interests. May be taken only twice.

490(5490) Supervised Research (1-10)

Prerequisites: Consent of instructor. Individual supervision of research leading to the preparation of a thesis, research paper, or publishable article, in which the student demonstrates skills in the discipline of sociology.

492(5492) Advanced Sociological Theory (3)

Prerequisite: Sociology 210(3210) or consent of instructor. Recent and current developments in sociological theory in light of its tradition and methodological issues. The state of modern theory with regard to specific conceptual, substantive, and methodological concerns.

495(5495) Sociological Reporting (3)

Prerequisites: Sociology 400(5400), Sociology 402(5402), and Sociology 404(5404). As part of the M.A. degree exit requirement, the seminar offers directed practice in the interpretation and reporting of sociological data in a wide range of styles, including those appropriate for research reports, journal articles, policy papers, nontechnical magazines, books, and monographs, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored.

498(5498) Advanced Seminar in Gerontology (3)

Prerequisite: Graduate standing. This course will provide in-depth analysis of specialized topics in Gerontology which are not covered in required courses. (Course may be repeated for a maximum of nine credits, assuming topics are different.)

Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either a minor or a certificate in a designated area of study. There are also a number of courses which are designated as interdisciplinary and which may or may not be part of a particular interdisciplinary minor or certificate program.

These interdisciplinary courses and programs bring together the resources of two or more subject areas to focus on topics that benefit from being studied from the point of view of more than one discipline. In some cases, faculty from several departments teach as a team, giving students the opportunity to experience faculty dialogue in a crossdisciplinary fashion.

Minor in American Studies

American Studies is an internationally recognized academic field which involves an interdisciplinary approach to the study of the culture(s) of the United States, its colonial antecedents, and its indigenous peoples.

Students interested in this minor should contact the coordinator of American Studies for advice and information.

Candidates must have a cumulative grade point average of 2.0 or better in the 18 credit hours required for the minor. Three hours of the minor may be taken on a satisfactory/unsatisfactory basis. Candidates wishing to take American Studies courses from the Honors College (see below) must be members of the Honors College or must have a 3.0 cumulative grade point average.

Requirements for the minor.

Completion of the American Studies minor requires at least 18 semester credit hours, including at least two courses (6 hours) from Section A and at least two courses (6 hours) from Section B. The other 6 hours may be chosen from Section A, B, and/or C. Please read the special requirements below.

A. Core courses in American Studies (all courses are 3 credits except where otherwise indicated).

At least two of the following core courses are required to qualify for the minor. Of this minimal requirement, one course must be chosen from either American Studies or English and the other from either History or Political Science. Students may take up to two additional courses from this group, and these may be chosen from any department or discipline.

Interdisciplinary: American Studies

90, The Foundations of American Culture
295, Issues in American Culture

Anthropology

71, Native American Literature

120(2120), Native Peoples of North America
121, Native Peoples of Eastern North America
122, Native Peoples of Western North America

Art and Art History

90, Freshman Seminar (when the topic is appropriate)
116(1104), North American Indian Art
158(2278), American Art
159(2279), American Architecture

Criminology and Criminal Justice

99(1990), The City

English

17(1170), American Literary Masterpieces
70(1700), African-American Literature
71(1710), Native American Literature (Same as Anth 71)
171(2710), American Literature I
172(2720), American Literature II

History

2(1001), American Civilization (to the mid-nineteenth century)
4(1002), American Civilization (from the mid-nineteenth century)
6(1003), African-American History
7(1004), The History of Women in the United States

Honors

121(1210), American Traditions: Humanities
122(1220), American Traditions: the Fine and Performing Arts
123(1230), American Traditions: Social Sciences
131(1310), Non-Western Traditions: Humanities
132(1320), Non-Western Traditions: the Fine and Performing Arts
133(1330), Non-Western Traditions: Social Sciences
(Admission to these Honors Seminars requires consent of the dean of the Honors College: note that depending on instructor and content, Honors 121(1210) can fulfill the requirements from this group in literature/American Studies and Honors 123(1230) can fulfill the History/Political Science requirement. Honors 131(1310)-133(1330) can qualify as additional Group A choices when their focus is on Native American traditions.

Music

6(1002), Introduction to African American Music
7(1060), Introduction to Jazz

Philosophy

107(3347), American Philosophy

Political Science

11(1100), Introduction to American Politics
99(1990), The City
130(2300), State Politics
135(2350), Introduction to Urban Politics
165(2650), American Political Thought

190(2900), Studies in Political Science (when appropriate).

Sociology

99(1990), The City

B. Option courses in American Studies (all courses are 3 credits except where otherwise indicated). To complete the American Studies minor, students must choose at least two courses from this group, from any department or discipline, and may choose up to four courses in this group. Courses chosen from this group must be chosen from at least two departments.

Anthropology

250(3250), American Folklore

291(3291), Current Issues in Anthropology (when appropriate).

Art and Art History

65(1165), Photography and Society (same as Interdisciplinary 65)

215(4402), Topics in Tribal Art

258(4475), Topics in American Art

291(4481), Topics in Contemporary Art (when appropriate)

Communication

50(1050), Introduction to Mass Media

243(2243), Communications in American Politics

350(3350), Mass Communication History

352(3352), Mass Media Criticism

Economics

205(2800), History of American Economic Development (same as History 205(2800))

Education

Ed Fnd 251(3251), Black Americans in Education

Ed Fnd 330(4330), History of American Education

Ed Fnd 332(4332), Progressivism and Modern Education

English

280(3800), Topics in Women and Literature (when appropriate)

373(4610), Selected Major American Writers I

374(4620), Selected Major American Writers II

375(4640), American Fiction to World War I

376(4650), Modern American Fiction.

380(4930), Studies in Women and Literature (when appropriate)

395(4950), Special Topics in Literature (when appropriate)

History

203(3042), U.S. Social Movements in the 20th Century

205(2800), History of American Economic Development (Same as Economics 205(2800))

210, African-American History: From Slavery to Civil Rights

212(3052), African-American History: From Civil Rights to Black Power

219(2219), U.S. Labor History

257(4013), United States History for the Secondary Classroom

300(3000), Selected Topics in History (when appropriate)

312(3012), The Indian in American History

315(3031), History of Women in the United States

316(3021), U. S. Urban History

318(3053), African-American Women's History

320(3043), History of Crime and Justice

393(4004), Senior Seminar (5 credits: when appropriate)

Honors College

(when topics are appropriate, any of the seminars below can qualify as an "option" course for the American Studies minor. Admission to these courses requires the consent of the dean of the Honors College.)

201(2010), Inquiries in the Humanities

202(2020), Inquiries in the Fine and Performing Arts

203(2030), Inquiries in the Social Sciences

207(2070), Inquiries in Education

301(3010), Advanced Seminar in the Humanities

302(3020), Advanced Seminar in the Fine and Performing Arts

303(3030), Advanced Seminar in the Social Sciences

307(3070), Advanced Seminar in Education

351(3510), Research Seminar: Humanities

352(3520), Research Seminar: Fine and Performing Arts

353(3530), Research Seminar: Social and Behavioral Sciences

3573570), Research Seminar: Education

Interdisciplinary

65(1165), Photography and Society (same as Art 65)

Philosophy

310(4410), Significant Figures in Philosophy (when appropriate)

Political Science

228, Judicial Politics and Policy

230(3300), The American Presidency

231(3331), Congressional Politics

232(2320), African Americans and the Political System

234(3340), Politics and the Media

235(3450), Political Parties and Elections

238, Women in U. S. Politics

320(3200), Constitutional Law

321(3210), Civil Liberties

332(3390), Studies in American Politics (when appropriate)

Sociology

40(1040), Social Problems

100(2100), Women in Contemporary Society

268(3268), The Sociology of Conflict

316(4316), Power, Ideology and Social Movements

3604360), Sociology of Minority Groups

380(4380), Selected Topics in Social Policy (when appropriate)

C. American Studies elective courses (courses are 3 credit hours unless otherwise indicated). Up to two courses from this group may be used for the American Studies minor. When two courses are chosen from this group, they must be chosen from different departments.

Anthropology

126(2126), Archaeology of Historic St. Louis
131(2131), Archaeology of Missouri
132(2132), Archaeology of North America
138(2138), African-American Archaeology

Art and Art History

191(2281), Art Since 1945
263(2267), Photography Since 1945

Communication

218(2218), Public Policy in Telecommunication
332(3332), Intercultural Communications
343((3343), The Rhetoric of Protest
355(3355), Media Law and Regulation

Criminology and Criminal Justice

240(2240), Policing
340(4340), Race, Crime and Justice

English

306(4060), Adolescent Literature
384((4770), Modern Poetry
385(4760), Modern Drama
386(4740), Poetry since World War II

History

301(3001), United States History: Colonial America to 1763
302(3002), United States History: Revolution and the New Nation, 1763 - 1815
303(3003), United States History: Nationalism and Sectionalism, 1815 to 1860
304(3004), United States History: 1860-1900
305(3005), United States History: 1900-1940
306(3006), United States History: 1940 to the Present
311(3041), Topics in American Constitutional History
313(3044), American Military History to 1900
314(3045), American Foreign and Military Affairs, 1900-Present
315(3031), History of Women in the United States

Political Science

129(2290), Women and the Law
226(2260), Law and the Individual
233(3330), Introduction to Political Behavior
241(3410), The Politics of Business Regulation
242(2420), Introduction to Public Policy
246(3460), The Politics of Poverty and Welfare
282(2820), United States Foreign Policy
333(3370), Mock Constitutional Convention

Social Work

150(1200), Social Welfare as a Social Institution
285((3400), Social Issues and Social Policy Development
314, Social Work with Culturally Diverse Populations

Sociology

40(1040), Social Problems
180(2180), Alcohol, Drugs and Society
202(3202), Urban Sociology
354(4354), Sociology of Business and Work Settings

In addition, courses with variable topics such as Topics in..., Studies in..., and seminars may be taken when the topics are appropriate. When in any doubt, see the coordinator of American Studies; such courses must be approved for inclusion in your American Studies minor before the semester registration deadline.

Minor in Black Studies

The minor in black studies is open to all undergraduate students at UM-St. Louis, whatever their major field. This minor is an interdisciplinary course of studies intended to provide a focus for new and existing courses in the area of black and African diaspora studies. A faculty member with expertise in black or diaspora studies is designated as coordinator. Students interested in pursuing the minor should consult the coordinator for advisement. For appropriate referral, please contact the advising office at the College of Arts and Sciences.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor. Courses applied to the minor may not be counted for a major.

Any courses relevant to black or African diaspora studies, offered by a humanities or social science department, may be taken when approved by the coordinator for the minor. Special topics courses, directed studies or readings may also be included for credit if relevant to the minor.

Requirements

1. Students must take one of the following:
Interdisciplinary 40, The Black World
History 83(1063), The African Diaspora to 1800
History 84(1064), The African Diaspora Since 1800
2. A minimum of two courses from the following:
Anth 5(1005), Human Origins
Anth 124(2124), Cultures of Africa
Art 117(1105), African Art
English 70(1700), African-American Literature
History 6(1003), African American History
History 81(1061), African Civilization to 1800
History 82(1062), African Civilization Since 1800
Music 6(1002), Introduction to African-American Music

3. Students should select a minimum of **three** courses from the following list. **One course must be a social science and one must be a humanities course.**

Anth 234(3234), Cultural Continuity and Change in Sub-Saharan Africa

Anth 235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

History 318(3053), African American Women's History

History 319(3050), Topics in African-American History

History 380(3301), West Africa to 1800

History 381(3302), West Africa Since 1800

History 382, History of Southern Africa

History 385(3303), African Diaspora to 1800

History 386(3304), African Diaspora since 1800

PolSci 232(2320), African Americans and the Political System

PolSci 258(2580) African Politics

Psych 392(4392), Selected Topics in Psychology: African American Psychology (Note: Students should only take Psych 392 when the topic is African American Psychology).

Sociology 245(3245), Sociology of South Africa

Sociology 360(4360), Sociology of Minority Groups

Comm 332(3332), Intercultural Communication

Minor in Classical Studies

The minor in classical studies is an interdisciplinary course of studies intended to encourage undergraduates in various disciplines to come to a fuller awareness of the cultures of ancient Greece and Rome and of the classical tradition that underlies much of modern Western civilization. In addition to appealing to any 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 1,

Latin 2, or

Ancient Greek 1,

Ancient Greek 2,

and three courses from the following list and any other course approved by the coordinator:

Ancient Greek 101(1001), Intermediate Ancient Greek Language and Culture

Art 111(2211), Art and Archeology of the Ancient World

Art 112(2212), Greek Art and Archeology

Art 113(2213), Roman Art and Archeology

Art 212(4411), Topics in Ancient Art and Archeology

English 20(1200), Classical Mythology

English 120(2200), Classical Literature in Translation
History 332(3081), Rome: The Republic and Empire
Interdisciplinary 200, Special Topics in Classical Studies
Latin 101(1001), Intermediate Latin Language and Culture

Philosophy 101(3301), Ancient Philosophy

Philosophy 302(4402), Aristotle

Philosophy 304 (4401), Plato

Minor in Legal Studies

The minor in legal studies is open to all undergraduate students at UM-St. Louis, whatever their major field. It offers a secondary field of concentration in one of the most important areas of social life. Students may use the minor as a complement to their major, as an additional qualification for career opportunities, or as general education.

This interdisciplinary minor coordinates liberal arts courses related to law. A faculty member in Legal Studies will advise students and will work with their major advisers in planning appropriate courses.

Candidates must take:

Interdisciplinary 20 (1200), Foundations of Law: An Introduction to Legal Studies (crosslisted as PolSci 20(1200).

and five courses from the following list. At least three courses must be taken at the 200 level and above. No more than two courses from a single discipline may be included in the minor.

CCJ 10(1100), Introduction to Criminology and Criminal Justice

CCJ 75(1075), Crime and Punishment

CCJ 130(1130), Criminal Justice Policy

CCJ 226(2226), Law and the Individual

CCJ 227(2227), Urban Law: Poverty and the Justice System

CCJ 345(3345), Rights of the Offender

Comm 355(3355), Media Law and Regulation

Econ 219(3650), Law and Economics

History 311(3041), Topics in American Constitutional History

History 321(3071) Medieval England

Philosophy 287, Philosophy of Law

Philosophy 387(4487), Seminar in Philosophy of Law

PolSci 129(2290), Women and the Law

PolSci 226(2260), Law and the Individual (crosslisted as CCJ 226)

PolSci 228, Judicial Politics and Policy

PolSci 320(3200) Constitutional Law

PolSci 321(3210), Civil Liberties

PolSci 326(3260), Judicial Decision Making

PolSci 329(3290), Studies in Public Law

PolSci 385(4850), International Law

Sociology 175(2175), Women, Crime, and Society

Sociology 278(3278), Sociology of Law

Minor in Public Affairs Journalism

The minor in public affairs journalism provides students with an overview of media operations, including basic writing and reporting skills, as well as a specialty area of advanced study. Ordinarily the specialty or cognate area focuses on a particular field, such as consumer affairs, economics, or political science -- areas in which a journalist would specialize. Cognate areas are proposed by students seeking the minor and approved by a faculty committee.

A minimum grade point average of 2.0 is required in the minor. No more than 3 hours credit may be taken on a satisfactory/unsatisfactory basis. A total of 18 hours is required for the minor. At least 12 of the 18 required hours must be taken at UM-St. Louis.

Requirements

1. 9 hours in communication/English professional training:

English 214(3140) or Comm 214(3214), News Writing

English 218(3180), Reporting or Comm 212(2212)
Broadcast Writing and Reporting

English 320(4890), Independent Writing Project, or
Comm 394(3394), 396(3396) or 397(3397), Internship

B. 9 hours in public affairs at the 200 level or above

1. Students earning a writing certificate or majoring in communication with a mass communication emphasis must take 15 hours (at least 9 of these at the 200 level or above) in economics, political science, or sociology.

2. Students majoring in economics, political science, or sociology must take 9 hours (in addition to the required English/communication courses) at the 200 level or above in addition to English/communication courses chosen from those listed above and/or in the two cognate areas outside their major (i.e., economics, political science, or sociology).

A list of courses applicable to the minor is available from the coordinator.

Minor in Urban Studies

A minor in urban studies includes 18 hours of course work. Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Special topics courses relevant to urban studies may be included in the minor when approved in advance by the coordinator of the urban studies minor.

Requirements

Students must take:

Interdisciplinary 99(1990), The City and five courses selected from the following list, at least three courses at the 200 level or above. No more than two courses from a single discipline may be included in the minor.

Courses Applicable to the Minor

Anth 242(3242), The Culture of Cities

Anth 250(3250), American Folklore

Art 159(2279), American Architecture

Art 295(3365), The Artist and the City

CCJ 227(2227), Urban Law: Poverty and the Justice System

CCJ 230(2230), Crime Prevention

CCJ 300(4300), Communities and Crime

Econ 270(3700), Urban and Regional Economics

Econ 317(3510), Public Finance: State and Local

Geography 210(2100), Urban Geography

Geography 211(2110), Location Theory

History 300(3000), Selected Topics in History (when urban or St. Louis history)

PolSci 135(2350), Introduction to Urban Politics

PolSci 245(3450), Urban Administration

PolSci 346(4470), Urban Planning and Politics

Psych 235(4235), Community Psychology

Psych 256(2256), Environmental Psychology

Sociology 40(1040), Social Problems

Sociology 202(3202), Urban Sociology

Sociology 344(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: 10, 20, 40, 45(1450), 60(1160), 75(1075), 90*, 91*, 99(1990), 101(1001), 102(2102), 120(1220), 150++, 269(3690)*, 287, 295*, 350++, 351. The following courses fulfill the Humanities breadth of study requirement: 65(1165), 70, 100(1000), 150++, 160, 200, 265(4465), 350++.

*These courses may fulfill the Humanities or Social Sciences breadth of study requirements.
++ Depending on topic.

10 The Classical World (3)

A survey of the cultures of ancient Greece and Rome - from the beginning of Hellenic civilization during the second millennium B.C. to the start of the breakup of the Roman Empire in the West. Focuses on various central issues and trends; illustrated primarily by the history, literature, philosophy, and art of the period.

20(1200) Foundations of Law: An Introduction to Legal Studies (3)

(Same as Criminology and Criminal Justice 20(1200) and Political Science 20(1200)). As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

40 The Black World (3)

A survey of the cultural life, historical experience, and contemporary sociopolitical issues facing the black peoples of Africa, the Caribbean, and United States.

45(1450) Introduction to Labor Studies (3)

(Same as Pol Sci 45(1450)). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and media.

60(1160) Aging in America (3)

(Same as Gerontology 60(1160).) An introduction to the major issues, research, problems, and current service approaches in the study of the aging process. An overview of information useful for students in the arts and sciences, business, education, and nursing schools. This course is primarily for freshmen and sophomores.

65(1165) Photography and Society (3)

(Same as Art and Art History 65(1165).) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art.

70 Introduction to the Study of Religion (3)

The nature of religion and approaches to its study. Examples will be drawn from representative Western and non-Western traditions.

75(1075) Crime and Punishment (3)

(Same as Criminology and Criminal Justice 75 and Sociology 75(1075).) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

90 The Development of American Cultures (3)

An examination of the conflict and amalgamation of diverse cultures in the origins and development of American society. Consideration is given to the emergence of a national political and economic system, national and regional cultures, racial and gender ideology, and sectional conflict. These developments will be examined through their impact on art, literature, religion, music, science, anthropology, architecture, political philosophy, and economic thought.

99(1990) The City (3)

(Same as Criminology and Criminal Justice 99, Political Science 99(1990), and Sociology 99.(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.

100(1000) Special Topics (3)

Topics may vary from semester to semester, however, they will all focus in the cultural heritage of Great Britain with material taken from art, theater, literature, and selected topics in philosophy.

101(1001) Special Topics (3)

Topics may vary from semester to semester, however, material will be selected which will focus in the social, economic, historical or political institution of Great Britain.

101 AIDS: Myths, Threats, and Realities (3)

Issues regarding the AIDS threat are examined, along with their ramifications. Topics include biological aspects of HIV retroviruses, how they are contracted and spread; methods of testing for them, and issues of public health versus individual rights; similarities and differences with past plagues and epidemics; ethical and theological positions; projected and actual effects of AIDS on society including workplace, education, the law, insurance industry, and economy; problems of labeling and deviance, psychological stigma, interpersonal communication and counselor burnout; political responses and the rational promotion of political strategies and policies to control the spread of AIDS.

102(2102) Women, Gender and Diversity (3)

An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. This course explores issues of power, identity, and relationship in women's lives.

120(1220) Special Topics in Gerontology (1-3)

(Same as Gerontology 120(1220).) Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

150 Special Topics in Women's and Gender Studies (3)

An introduction to a particular topic area in women's studies (topics will be announced prior to registration), drawing on the theories and methods of such disciplines as sociology, Psychology, political science, 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.

160 Monday Noon Cultural Seminar (2)

An interdisciplinary examination of topics in the Humanities. Students will attend the Monday Noon Cultural Series program of the Center for the Humanities each week and meet as a group to explore the nature and background of each presentation, e.g., fiction reading,

musical event, presentation of scholarly research in the arts or culture, or social and historical analysis.

200 Special Topics in Classical Studies (3)

Prerequisite: Interdisciplinary 10 or consent of minor coordinator. Selected topics dealing with various aspects (e.g., literature, history, philosophy, politics, sociology, fine arts) of ancient Greece and Rome. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with the consent of the Coordinator for the Minor in Classical Studies. Readings will be in English.

265(4465) Topics in Photographic Studies (3)

(Same as Art and Art History 265(4465). Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

269(3690) The Marxist Heritage (3)

(Same as Philosophy 269(3369), and PolSci269(3690). Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

287 The World Food Problem (3)

Prerequisite: Econ 40(1000) or 51(1001), or consent of instructor. An introduction to the world's food problem and an examination of the economic and political problems in distributing basic food-stuffs among the earth's people.

295 Issues in American Culture (3)

Prerequisites: Interdisciplinary 9(1990) or consent of instructor. An examination of specific topics in American culture from the point of view of a number of disciplines. This exit seminar for the American Studies minor may be repeated for credit.

350 Topics in Women's and Gender Studies (3)

Prerequisite: Junior standing and one Women's and Gender Studies course. This course will focus on a particular aspect of women's conditions (to be announced prior to registration) and will draw upon recent theoretical and methodological work in the field of women's and gender studies from a variety of disciplines. Course may satisfy the distribution requirement for Humanities or Social Sciences depending on the topic.

351 Theories of Feminism (3)

Prerequisites: Junior standing and one Women's and Gender Studies course preferably ID 50 or 102(2102) or consent of instructor. An analysis of contemporary theories of feminism, including liberal, radical, socialist, and women-of-color perspectives, and an exploration of the underpinnings of feminist theory in major systems of thought.

352 Independent Studies in Women's and Gender Studies (1-3)

Prerequisite: Junior standing; two courses in Women's and Gender Studies, including ID 50 Or 102(2102); and consent of the instructor and the Institute. Directed independent work in selected Women's and Gender Studies topics through readings, research, reports and/or conferences. Course may satisfy the distribution requirement for the Humanities, Social Sciences or Math/Science depending on topic.

353 Internship in Women's and Gender Studies (3)

Prerequisite: 90 hours. 2.5 GPA, 12 WGS hrs. Internship would place the student in a profit or nonprofit setting for approximately ten hours a week in an internship structured and supervised by the Institute; consent of Director required; may include biweekly seminar. Student must present appropriate course background for either option, plus the above pre/co-requisites.

390 Independent Studies in Photographic Studies (1-10)

Prerequisites: Twelve hours completed in photographic studies. Integrated individual projects conducted under photographic studies committee and departmental faculty supervision.

401 Inquiries in Women's and Gender Studies (3)

Introduces graduate students to the field of women's studies, with particular focus on its vocabulary and evolution, its location within and relationship to the academy, and its predominant theoretical and methodological frameworks. Specific content will vary year to year. Strongly encouraged for graduate students in Women's and Gender Studies.

450 Seminar in Women's and Gender Studies (3)

Critical examination of advanced topics in the humanities, social sciences, or natural sciences from women's and gender studies perspectives. May be taken more than once provided that the subject matter is different each time the seminar is taken.

452 Special Readings in Women's Studies/Gender Studies (3)

Prerequisite: Admission to Graduate Certificate program and consent of instructor. Directed independent work on a selected Women's and Gender Studies topic through readings, research, reports, and/or conferences.

Certificate Programs

The University College offers a wide variety of certificates, which provide our students the opportunity to develop expertise in subjects other than their major field. These programs usually combine course offerings from several departments so the subject is examined from a multidisciplinary approach. While most persons who earn certificates do so in the process of completing their undergraduate degree, a certificate may be completed by non-degree seeking students.

Students wishing to earn a graduate certificate must seek formal admission to the Graduate School.

To find the descriptions of the courses within a specific certificate program, refer to the individual department from which the courses are drawn. Following is a list of certificate programs offered by the University, with only the program requirements listed for those which are interdisciplinary.

Graduate Certificate Programs:

Biotechnology, Business Administration, Electronic Commerce, Forensic Economics, Gerontology, Human Resources Management, Information Resource Management, Information Systems Development, International Studies, 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)**Pending approval of CBHE)

Undergraduate Certificate Programs:

African Studies (African Studies or African Diaspora Studies), Biochemistry, Biotechnology, Conservation Biology, East Asian Studies, European Studies, International Business, International 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
124(2124), Cultures of Africa
Area 2: Art and Art History
117(1105), African Art

Area 3: History

81(1061), African Civilization to 1800
82(1062), African Civilization Since 1800

Area 4: Political Science

258(2580), African Politics

2) One course in two of the following areas, a total of 6 hours:

Area 1: Anthropology

234(3234), Cultural Continuity and Change in Sub-Saharan Africa
235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

Area 2: Art and Art History

*215(4402), Topics in Tribal Arts

* Note: Students should take Art History 215(4402) only when the topic is appropriate to Africa.

Area 3: History

380(3301), West Africa to 1800
381(3302), West Africa Since 1800

Area 4: Sociology

245(3245), Sociology of South Africa

3) An independent study course (3 hours) in which a research paper will be written on some aspect of African Studies

II. African Diaspora Studies

1) Interdisciplinary 40: The Black World (3)

2) One course from each of the following areas, a total of 6 hours.

Area 1: Africa

Anthropology
124(2124), Cultures of Africa

History

81(1061), African Civilization to 1800
82(1062), African Civilization Since 1800

Area 2: Diaspora

Anthropology
05(1005), Human Origins

History

06(1003), African-American History
83(1063), The African Diaspora to 1800
84(1064), The African Diaspora Since 1800
212(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

234(3234), Cultural Continuity and Change in Sub-Saharan Africa

235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

Art History

117(1105), African Art

History

380(3301), West Africa to 1800

381(3302), West Africa Since 1800

Political Science

258(2580), African Politics

Sociology

245(3245), Sociology of South Africa

Area 2: Diaspora

Communication

332(3332), Intercultural Communication

English

70(1700), African-American Literature

History

319(3050), Topics in African-American History

385(3303), African Diaspora to 1800

386(3304), African Diaspora Since 1800

Music

6(1002), Introduction to African-American Music

Political Science

232(2320), African Americans and the Political System

***Psychology**

392(4392), Selected Topics in Psychology: African American Psychology

Sociology

360(4360), Sociology of Minority Groups

- Note: Students should take Psychology 392(4392) only when the African American Psychology topic is offered.

Biochemistry Certificate

(Refer to the Biology section of this Bulletin.)

Biotechnology 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 61(1041) and History 62(1042), East Asian Civilization

3) One course in three of the following six areas, a total of nine hours:

Area 1: Anthropology

110(2110), Cultures of Asia

Area 2: Art and Art History

107(1109), The Arts of China

108(1110), The Arts of Japan

208(4408), Topics in Asian Art

Area 3: History

361(3101), Modern Japan: 1850 to Present

362(3102), Modern China: 1800 to Present

*393(4004), Senior Seminar

*Note Students should take History 393(4004) only when the topic is appropriate to East Asia.

Area 4 Music

9(1080), Non-Western Music I

10(1090), Non-Western Music II

Area 5: Philosophy

120(1120), Asian Philosophy

Area 6: Political Science

155(2550), East Asian Politics

*359(3590), Studies in Comparative Politics

*388(3890), Studies in International Relations

*Note Students should take PolSci 359(3590) or PolSci 388(3890) only when the specific topic is appropriate.

Electronic Commerce Certificate

(Refer to the Business Administration section of this Bulletin.)

European Studies Certificate

1) Four semesters of college work or the equivalent in a modern European foreign language.

2) History 32(1032), Topics in European Civilization: 1715 to the Present.

3) One course each from at least four of the following eight areas, a total of 12 hours. Students should consult advisers at the Center to determine how these courses can best be arranged to meet their interests.

Area 1: Art and Art History

135(2235), Renaissance Art

145(2245), Baroque Art

235(4435), Topics in Renaissance Art

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245(4445), Topics in Seventeenth- and Eighteenth-Century European Art
255(4455), Topics in Nineteenth- and Twentieth-Century European Art

Area 2: Economics

238(3310), Comparative Economic Systems

Area 3: English

128(2280), The Contemporary World in Literature
132(2320), English Literature II
323(4920), Continental Fiction
346(4410), Restoration and Eighteenth-Century Drama
364(4450), The Eighteenth-Century English Novel
365(4540), The Nineteenth-Century English Novel
372(4580), Literature of the Late Nineteenth and Early Twentieth Centuries
383(4750), Modern British Fiction

Area 4: History

31(1031), Topics in European Civilization: Emergence of Western Europe to 1715
341(3085), The Age of the Renaissance
342(3086), The Age of Reformation
348(3092), Europe 1900 - 1950: War and Upheaval
349(3093), Europe, 1950 - Present: Peace and Prosperity
351(3094), Contemporary France: Since 1870
352(3095), Germany in the Modern Age

Area 5: Foreign Languages and Literatures

FRENCH

110(2110), Modern French Literature in Translation
150(2150), European Literature in Translation: Special Topics
211(3211), Contemporary French Culture
281(3281), French Literature II: Nineteenth and Twentieth Centuries
341(4341), Seventeenth-Century French Theatre and Poetry
342(4342), Seventeenth-Century French Prose
353(4353), Eighteenth-Century French Literature
354(4354), Eighteenth-Century French Theatre and Novel
362(4362), Nineteenth-Century French Novel
371(4371), Twentieth-Century French Novel
375(4375), Modern French Theatre

GERMAN

110(2110), Masterpieces of German Literature in Translation
150(2150), European Literature in Translation: Special Topics
201(3201), Masterpieces of German Literature
202(3202), The German Novelle and Drama
210(3210), German Culture and Civilization
315(4315), German Classicism and Romanticism
320(4320), German Realism and Naturalism
345(4345), Modern German Literature
397(4397), Survey of German Literature Part I
398(4398), Survey of German Literature Part II

SPANISH

110(2110), Spanish Literature in Translation
150(2150), European Literature in Translation: Special Topics
310(4310), Spanish Literature from 1898 to 1939
315(4315), Spanish Literature from 1939 to the Present
320(4320), Realism and Naturalism in the Nineteenth-Century Spanish Novel
321(4321), Poetry and Drama of the Nineteenth Century
325(4325), Poetry and Drama of the Golden Age

Area 6: Music

322(4220), Music of the Renaissance
323(4230), Music of the Baroque
324(4240), Music of the Classic Period
325(4250), Music of the Romantic Period

Area 7: Philosophy

103(3303), Early Modern Philosophy
104(3304), Kant and Nineteenth-Century Philosophy
105(3305), Twentieth-Century Philosophy
305(4405), The Rationalists
306(4406), The British Empiricists

Area 8: Political Science

251(2510), Comparative Politics of Europe
256(2560), Russia and the New Republics
284(3840), European International Relations
*351(4510), Comparative Public Policy and Administration
*359(3590), Studies in Comparative Politics
*388(3890), Studies in International Relations
*Note Students should take PolSci 351(4510), 359(3590), or 388(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.)

Human Resource Management Certificate

(Refer to the Business Administration section of this Bulletin.)

Information Resource Management Certificate

(Refer to the Business Administration section of this Bulletin.)

Information Systems Development Certificate

(Refer to the Business Administration section of this Bulletin.)

International Business Certificate

- 1) Students must complete a minimum of 12 hours in the Business Internship Program in London or in some other approved overseas study program.
- 2) One course from Area 1 and one from Area 2, a total of six hours.

Area 1: Business Administration:

316(3780), International Marketing
317(3680), International Management
380(3580), International Finance

Area 2: International Studies:

Anth 238(3238): Culture and Business in East Asia
Econ 230(3300): International Economic Analysis
Econ 231(3301): International Finance
Econ 238(3310): Comparative Economic Systems
Econ 240(3320): Economic Development
PolSci 283(3830): International Political Economy
PolSci 388(3890): Studies in International Relations.
(International Relations of East Asia)
Sociology 241(3241): Selected Topics in
Macro-sociology.(Work and Industry in Japan)
Sociology 354(4354): Sociology of Business and Work
Settings

In lieu of a course from Area 2, students may substitute one course (3 hours) at the advanced level of a foreign language. Advanced level is defined as a course beyond the 13 hour introductory language sequence.

- 3) An independent study course is not required for this certificate option.

Note: Students participating in other approved overseas study programs such as Hogeschool Holland Business School, Ecole Superieure de Commerce de Saint Etienne, or Université Jean Moulin, may also qualify to apply 12 credit hours toward the International Business Certificate.

Graduate Certificate in International Studies

A Graduate Certificate in International Studies is a program of study featuring advanced, multidisciplinary course work designed for individuals, including teachers and other professionals, who wish to expand their knowledge and understanding of international and cross-cultural affairs. The Certificate is sponsored by the Center for International Studies, and the Departments of Economics, History, Foreign Languages and Literatures, and Political Science. A broad set of course offerings is available in these and other departments, with the flexibility for students to tailor the program to their particular interests and needs. The program has been developed as a vehicle for bringing together the resources of a distinguished faculty in international studies and for providing an opportunity for further graduate learning.

Applicants to the Certificate program must meet the general requirements for admission to Graduate School as explained in the graduate study section of this Bulletin. The Certificate is awarded after completion of 18 hours, including a minimum of 12 hours drawn from a list of core courses and an additional six hours selected from a wide variety of offerings in eight different disciplines. No more than 12 hours may be from any one discipline. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the Certificate when appropriate.

Requirements

Students must complete at least 12 hours chosen from the following list of core courses:

Anthropology

425(5428), Peoples and Cultures of Southeast Asia
430(5440), Global Refugee Crisis

Business Administration

416(6580), International Finance, Investment, and
Commercial Relations

417(5280), International Business Operations

443(5480), International Accounting

Economics

430(6300), International Trade

431(6301), International Monetary Analysis

History

410(6111), Readings in European History to 1715

415(6112), Readings in European History Since 1715

420(6113), Readings in East Asian History

425(6114), Readings in Latin American History

430(6115), Readings in African History

Political Science

450(6450), Proseminar in Comparative Politics

451(6451), Seminar in Comparative Politics

480(6480), Proseminar in International Relations

481(6481), Seminar in International Relations

488(6488), Studies in International Relations

Sociology

410(5410), Comparative Social Structures

Students may complete an additional six hours chosen from the following:

Business Administration

316(3780), International Marketing

317(3680), International Management

* 380(3580), International Finance

* **Note:** Students may not count both Bus. Admin.
416(6580) and 380(3580).

Communication

332(3332), Intercultural Communication

354(3354), Comparative Telecommunication Systems

356(3356), International Communication

Criminology and Criminal Justice

305(3305), Comparative Criminology and Criminal Justice

Economics

331(4301), International Economic Analysis: Finance

395(4980), Special Readings

English

323(4920), Continental Fiction

History

314(3045), American Foreign and Military Affairs, 1900-Present

320(3043), History of Crime and Justice

348(3092), Europe 1900-1950: War and Upheaval

349(3093), Europe, 1950-Present: Peace and Prosperity

351(3094), Contemporary France: Since 1870

352(3095), Germany in the Modern Age

355, History of Spain

361(3101), Modern Japan: 1850 to Present

362(3102), Modern China: 1800 to Present

372(3202), History of Latin America: Since 1808

381(3302), West Africa: Since 1800

382, History of Southern Africa

390(4001), Special Readings

Foreign Languages and Literatures

French 362(4362), Nineteenth-Century French Novel

French 365(4365), Modern French Poetry

French 371(4371), Twentieth-Century French Novel

French 375(4375), Modern French Theatre

German 315(4315), German Classicism and Romanticism

German 320(4320), German Realism and Naturalism

German 345(4345), Modern German Literature

German 398(4398), Survey of German Literature Part II

Spanish 310(4310), Spanish Literature from 1898 to 1939

Spanish 315(4315), Spanish Literature from 1939 to Present

Spanish 320(4320), Realism and Naturalism in the Nineteenth-Century Spanish Novel

Spanish 321(4321), Poetry and Drama of the Nineteenth Century

Spanish 340(4340), Spanish-American Literature of the Nineteenth Century

Spanish 341(4341), Modernismo

Spanish 345(4345), Spanish-American Literature of the Twentieth Century

Spanish 351(4351), Spanish-American Fiction in the Twentieth Century

Spanish 360(4360), Spanish-American Poetry from Modernismo to the Present

Music

325(4250), Music of the Romantic Period

326(4260), Music of the Twentieth Century

Political Science

351(4510), Comparative Public Policy and Administration

359(3590), Studies in Comparative Politics

385(4850), International Law

386(3860), Studies in War and Peace

388(3890), Studies in International Relations

485, Directed Readings and Research in International Relations

Sociology

342(4342), World Population and Ecology

Latin American Studies Certificate

1) Thirteen credit hours or the equivalent in Spanish.

2) Either History 71(1051), Latin American Civilization, or

Spanish 211(3211), Hispanic Culture and Civilization: Spanish America.

3) A total of 12 hours from at least three of the following areas:

Area 1: Anthropology

134(2134), The Inca, Aztec, and Maya

140, Cultures of Mexico and Central America

145, Indians of South America

Area 2: Art and Art History

119(1103), Pre-Columbian Art of Mexico and Central America

Area 3: History

371(3201), History of Latin America: To 1808

372(3202), History of Latin America: Since 1808

Area 4: Political Science

253(2530), Political Systems of South America

254(2540), Political Systems of Mexico, Central America, and the Caribbean

*359(3590), Studies in Comparative Politics

*Note Students should take PolSci 359(3590) only when the topic is appropriate to Latin America.

Area 5: Spanish

111(2110), Spanish-American Literature in Translation

211(3211), Hispanic Culture and Civilization: Spanish America

281(3281), Introduction to Hispanic Literature: Spanish America

340(4340), Spanish-American Literature of the Nineteenth Century

341(4341), Modernismo

345(4345), Spanish-American Literature of the Twentieth Century

351(4351), Spanish-American Fiction in the Twentieth Century

360(4360) Spanish-American Poetry from Modernismo to the present

Managerial Economics Certificate

(Refer to the Economics section of this Bulletin.)

Marketing Management Certificate

(Refer to the Business Administration section of this Bulletin.)

Museum Studies Certificate

(Refer to the History section of this Bulletin.)

Non-Profit Organization Management and Leadership Certificate

(Refer to the Graduate School-Public Policy Administration section of this Bulletin.)

Non-Profit Organization Management and Leadership Certificate (Undergraduate)

The university offers an undergraduate certificate program for students who want to become professional staff, board members, or other leaders of nonprofit and voluntary organizations, as well as those who are currently in the field.

The certificate requires the completion of 18 semester hours. Nine of these hours must be the following core courses:

Political Science

394(3940), same as Sociology or Social Work 308(4940)
(3 hours)

Political Science and Social Work 391A(4911),
Management Issues in Nonprofit Organizations: Staff
Management Issues

Political Science and Social Work 391-B(4912)
Management Issues in Nonprofit Organizations: Legal
Issues in Governing and Managing Nonprofit
Organizations

Political Science and Social Work 391-C(4913)
Management Issues in Nonprofit Organizations:
Financial Issues

Political Science and Social Work 396(4960)
American Philanthropy and Nonprofit Resource
Development

The remaining 9 hours of electives can be selected from the following courses:

Business Administration

206(3700), Basic Marketing
210(3600), Management and Organizational Behavior
309(3621), Human Resource Management
311(3611), Advanced Management and
Organizational Behavior

Communication

228(2228), Public Relations Writing (Same as English
228(3280)

230(2230), Small Group Communication

231(2231), Communication in the Organization

240(2240), Persuasive Communication

358(3358), Communication in Public Relations
English

212(3120), Business Writing

313(3130), Advanced Business and Technical Writing

Political Science

342(3420), Public Personnel Management

344(3440), Public Budgeting

Psychology

222 (2222), Group Processes in Organization

320(3320), Personnel Assessment

Social Work

305(3300), Intervention Strategies for Social Work with
Organizations and Communities

Sociology

268(3268), The Sociology of Conflict

280(3280), Society, Arts and Technology

312(4312), Sociology of Wealth and Poverty

314(4314), Social Change

336(4336), Organizations and Environments

Photographic Studies Certificate

(Refer to the Art and Art History Section of this Bulletin.)

Psychology – Clinical Respecialization Certificate

(Refer to the Psychology section of this
Bulletin.)

Studies in Religions Certificate

A certificate in studies in religions requires the completion
of 18 hours with a grade of C or better.

Courses must be chosen from two or more departments
(interdisciplinary offerings excluded), and the program
must include two or more courses which focus on different
major religious traditions. (Courses which fulfill this
requirement are marked with an asterisk [*] in the list
below.)

In addition, students are encouraged to broaden their
understanding of religions and religious experience by
enrolling in several courses in which these subjects are
studied in philosophical or cultural contexts.

Students must obtain the approval of the coordinator of
studies in religions before completing 12 hours toward this
certificate.

Requirements

Students must take 18 hours chosen from the following list
in accordance with the guidelines above:

Anthropology

244(3244), Religion, Magic, and Science

173(2173), Archaeology and Cultures of the Biblical
World

Art

125(2225), Medieval Art

***114(2214)**, Early Christian Art and Archaeology

English

***13(1130)**, Topics in Literature

***123(2230)**, Jewish Literature

***124(2240)**, Literature of the New Testament

***125(2250)**, Literature of the Old Testament

***391(4940)**, Special Topics in Jewish Literature

***395(4950)**, Special Topics in Literature

History

***252**, The World of Islam

***335(3082)**, History of the Church: The Middle Ages

Music

103(1030), Music in Religion

Philosophy

85(1185), Philosophy of Religion

102(3302), Medieval Philosophy

120(1120), Asian Philosophy

*185(3385), Issues in Philosophy of Religion

385(4485), Topics in Philosophical Theology

Political Science

165(2650), American Political Thought

261(2610), Ancient and Medieval Political Thought

Sociology

264(3264), The Sociology of Religion

Taxation Certificate

(Refer to the Business Administration section of this Bulletin.)

Telecommunications Management Certificate

(Refer to the Business Administration section of this Bulletin.)

Trauma Studies Certificate

(Refer to Psychology section of this Bulletin for Graduate Certificate, Undergraduate information follows.)

Trauma Studies Certificate

The trauma studies certificate is designed for students who are interested in a focused specialty in trauma studies or victim services in addition to their own major. It is appropriate for students in the College of Arts and Sciences or any of the schools of the university. It is particularly appropriate for students wishing to pursue careers in psychology, social work, sociology, criminology, law, public health, or nursing.

Requirements

A student may earn a trauma studies certificate by completing 18 hours with a GPA of 2.0 or better from at least three departments from the following courses: Students must complete at least 12 hours from the following group:

CCJ

120(1120), Criminal Law

300(4300), Communities and Crime

350(4350), Victimology

Nursing

370(4770), Topics in Nursing (Women at Risk: Women and Safety)

Psychology

232(2232), Psychology of Victims

280(4280), The Psychology of Death and Dying

295(3295), Selected Projects in Field Placement: Helping Victims of Crime (for three credits only toward certificate).

390(3390), Directed Studies, if trauma-related topic (for three credits only toward certificate). Please seek approval of the Coordinator of the Trauma Studies Certificate in advance

Social Work

310(3601), Abused and Neglected Children

322(3602), Child Welfare Practicum Seminar

Sociology

278(3278), Sociology of Law

Only one of the following highly recommended courses may be counted toward the trauma studies certificate:

Psychology 161(2161), Helping Relationships

Social Work 210(3100), Introduction to Intervention Strategies for Social Work Practice

Students may count up to 6 hours from the following group toward the trauma studies certificate:

CCJ

230(2230), Crime Prevention

240(2240), Policing

340(4340), Race, Crime, and Justice (same as Sociology 340)

Political Science

140(2400), Public Administration

242(2420), Introduction to Public Policy

394(4940), Leadership and Management in Nonprofit Organizations (same as Social Work 308 and Sociology 308(3940))

Psychology

160(2160), Social Psychology (same as Sociology 160(2160))

230(2230), Psychology of Women

235(4235), Community Psychology

245(2245), Abnormal Psychology

Social Work

308, Leadership and Management in Nonprofit Organizations (same as PolSci 394(4940) and Sociology 308(4940))

312(4601), Women's Social Issues

Sociology

102(2102), Women, Gender and Diversity

160(2160), Social Psychology (same as Psych 160(2160))

214(3214), Juvenile Delinquency and Youth Crimes

268(3268), The Sociology of Conflict

308(4940), Leadership and Management in Nonprofit Organizations (same as PolSci 394(4940) and Social Work 308)

340(4340) Race, Crime, and Justice (same as CCJ 340)

Special Topics courses relevant to trauma studies may be included in the certificate when approved in advance by the coordinator of the trauma studies certificate.

Tropical Biology and Conservation Certificate

(Refer to the Biology section of this Bulletin.)

Women's and Gender Studies Certificates

Faculty

Joyce Mushaben, Professor of Political Science, Director
Ph.D., Indiana University
Nanora Sweet, Assistant Professor of English, Director*
Ph.D., University of Michigan
Zuleyma Tang Martinez, Professor of Biology
Ph.D., University of California-Berkeley
Carol K. Peck, Professor of Optometry
Ph.D., University of California-Los Angeles
Stephanie Ross, Professor of Philosophy
Ph.D., Harvard University
Jayne Stake, Professor of Psychology
Ph.D., Arizona State University
Diane Touliatos, Professor of Music
Ph.D., Ohio State University
Deborah Aldrich-Watson, Associate Professor of English
Ph.D., Columbia University
Ruth Bohan, Associate Professor of Art History
Ph.D., University of Maryland
Susan Brownell, Associate Professor of Anthropology
Ph.D., University of California, Santa Barbara
Sheilah Clark-Ekong, Associate Professor of
Anthropology
Ph.D., University of California; Los Angeles
Margaret Cohen, Associate Professor of Educational
Psychology
Ph.D., Washington University
Therese S. Cristiani, Associate Professor of Counseling
Ed.D., Indiana University
Sally Barr Ebest, Associate Professor of English
Ph.D., University of Indiana
Yael Even, Associate Professor of Art
Ph.D., Columbia University
Kathy Gentile, Associate Professor of English*
Ph.D., University of Oregon
Joan Hashimi, Associate Professor of Social Work,
Emeritus
Ph.D., University of Illinois-Urbana
Margo-Lea Hurwicz, Associate Professor of
Anthropology
Ph.D., University of California-Los Angeles
Barbara Kachur, Associate Professor of English
Ph.D., Ohio State University
Janet Lauritsen, Associate Professor of Criminology and
Criminal Justice
Ph.D., University of Illinois-Urbana
Lols Pierce, Professor of Social Work
Ph.D., Washington University
Gerda Ray, Associate Professor of History
Ph.D., University of California-Berkeley
Uma A. Segal, Associate Professor of Social Work
Ph.D., Washington University
Margaret Sherraden, Associate Professor of Social Work
Ph.D., Washington University
Anne Winkler, Associate Professor of Economics
Ph.D., University of Illinois-Urbana

Jean Morgan Zarucchi, Professor of French and Art
History
Ph.D., Harvard University
Priscilla Dowden, Assistant Professor of History
Ph.D., Indiana University
Ruth Iyob, Associate Professor of Political Science
Ph.D., University of California, Santa Barbara
Tivoli Majors, Assistant Professor of English
Ph.D., University of Texas at Austin
Jody Miller, Assistant Professor of Criminology and
Criminal Justice,
Ph.D., University of Southern California
Laura Westhoff, Assistant Professor of History and
Education
Ph.D., Washington University
Virginia Navarro, Associate Professor in Educational
Psychology,
Ph.D., Washington University
Ann Steffen, Associate Professor of Psychology
Ph.D., Indiana University
Peggy A. Lambing, Lecturer in Business Administration
M.B.A., University of Missouri-St. Louis
Margaret Phillips, Lecturer in Foreign Languages
Ph.D., Saint Louis University
Beverly Sporleder, Lecturer in Social Work
MSW, Washington University
*Joint appointees in Women's and Gender Studies
The Institute for Women's and Gender Studies draws upon
the rich body of interdisciplinary feminist scholarship to
investigate emerging theories and research on women and
gender. Courses examine women's lives, roles, and
contributions among different cultures and times, enabling
students to broaden their educational experience and
develop new insights into their own lives and aspirations.
The program offers both day and evening courses.
The faculty and students in the Institute for Women's and
Gender Studies program believe in cooperative education.
Classes promote the exchange of knowledge among
women and men of different classes, races, sexual
orientations, and social conditions.

The Institute for Women's and Gender Studies program
offers an undergraduate certificate which is similar to a
minor. (For graduate study, see listing for Institute for
Women's and Gender Studies Graduate Certificate.) A
certificate is meant to supplement a student's traditional
academic major, to encourage a reassessment of gender
and of women's roles in society, and to facilitate career
goals that focus on women's and gender issues. The
opportunity to earn a certificate is available to all
undergraduates pursuing a degree at UM-St. Louis and to
individuals with a bachelor's degree from any university.

Institute for Women's and Gender Studies courses are
open to all students, whether or not they are working
toward a certificate.

Candidates for the certificate should register with the
Institute for Women's and Gender Studies program after

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they have taken one or two courses. To register, students should complete the certificate form available from any institute faculty or from the institute office. Students interested in the program should contact the director of the program or any member of the women's studies faculty.

Requirements

A student must complete 18 hours in Women's and Gender Studies courses, including:

Interdisciplinary 102(2102), Women, Gender, and Diversity and either a 300-level course in Women's and Gender Studies or an independent study or internship (3 hours) to be taken in the junior or senior year. Students choosing the independent study option will write a research paper on some aspect of women's and gender studies.

Also required are four additional courses chosen from the following list. These shall be distributed among at least two of the following areas: social science, humanities, and natural science. They should also be distributed among at least three academic departments. No more than 3 hours may be taken on a satisfactory/unsatisfactory basis.

Anthropology

21(1021), The Body in Culture

41(1041), Sex and Gender across Cultures

235(3235), Women in Sub-Saharan Africa: A Contemporary Perspective

Art 276(3376), Women and the Visual Arts

Biology/Psych 140, Female Sexuality

Business 295, Problems in Management: Women in the Profit Sector

Comm 337(3337), Male/Female Communication

Criminology and Criminal Justice 325(3325), Gender, Crime, and Justice

Economics 262(2410), Economics of Women, Men, and Work

English

13(1130), Topics in Literature (when appropriate topic)

280(3800), Topics in Women and Literature

380(4930), Studies in Women and Literature

History

007(1004), History of Women in the United States

201(3032), History of Women in Comparative Cultures

300(3000), Selected Topics in History (as appropriate)

315(3031), History of Women in the United States

318(3053), African American Women's History

390(4001); Directed Readings

Honors

200 level Inquiries courses (when appropriate)

300 level Seminars (when appropriate)

Interdisciplinary

102(2102), Women, Gender, and Diversity

150, Special Topics in Women's and Gender Studies

350, Topics in Women's and Gender Studies

351, Theories of Feminism

352, Independent Studies in Women's and Gender Studies

353, Internship in Women's and Gender Studies

Music 108(1080), Women in Music

Nursing 365(4765), Women's Issues in Health Care

Philosophy

153(2253), Philosophy and Feminism

352(4452), Feminism and Science

Political Science

129(2290), Women and the Law

190(2900), Studies in Political Science (when appropriate)

238, Women in U.S. Politics

257(3570), Gender, Race, and Public Policy

259(3590), Politics, Leadership, and the Global Gender Gap

268(3680), Feminist Political Theory

Psychology

230(2230), Psychology of Women

232(2232), Psychology of Victims

295(3295), Selected Projects in Field Placement (when appropriate)

Social Work

312(4601), Women's Social Issues

320(4800), Supervised Field Experience in Social Work I (when appropriate)

321(4850), Supervised Field Experience in Social Work II (when appropriate)

Sociology

100(2100), Women in Contemporary Society

102(2102), Women, Gender, and Diversity

103(2103), Sex Roles in Contemporary Society

175(2175), Women, Crime, and Society

Institute for Women's and Gender Studies Certificate-Graduate

The graduate certificate in the institute for women's and gender studies is designed for students who wish to receive post-baccalaureate training in women's studies. This program provides a multidisciplinary course of study for students wishing to specialize in women's issues. It is appropriate for students in the College of Arts and Sciences or any of the schools of the university.

Admission Requirements

Program applicants must have the following:

- Baccalaureate degree.
- 2.75 grade point average.
- Official transcripts of all previous undergraduate/graduate work.
- Two letters of recommendation.

Certificate Requirements

A student may earn the graduate certificate in women's studies by completing a total of 18 hours from the following courses listed (or from additional courses approved by the director for women's studies). At least

9 hours of course work must be at the 400 level; no more than 6 hours of course work may be Independent Study.

Core Courses

Comm 337(3337), Male/Female Communication
Cns Ed 462(7040), Counseling Women Toward Empowerment
CCJ 325(3325), Gender, Crime, and Justice
CCJ 446(6446), Sex Crime

English

380(4930), Studies in Women and Literature
416(5040), Feminist Critical Theory

History

300(3000), Topics in History (when appropriate)
315(3031), History of Women in the United States
318(3053), African American Women's History
Honors 300 Seminars (when appropriate)

Interdisciplinary

350, Topics in Women's and Gender Studies
351, Theories of Feminism
353, Internship in Women's and Gender Studies
452, Special Readings in Women's and Gender Studies

Nursing

365(4765), Women's Issues in Health Care

Psychology

410(7410), Women and Mental Health
418(7418), Human Sexuality

Social Work

312(4601), Women and Social Issues

Other 400 level topics courses as appropriate (e.g., Eng 495(5950); History 405(6102))

Writing Certificates

(Refer to English section for Undergraduate Writing and Writing with Technical Emphasis; and the English and College of Education (Teaching and Learning) section for the Graduate Certificate in the Teaching of Writing. Students at the University of Missouri-St. Louis may develop preprofessional study programs from the university's academic offerings in architecture, engineering, dentistry, journalism, law, medicine, optometry, or pharmacy. With early and careful advising, students may develop a two-year study program in preparation for transfer into a professional program in the junior year, or they may select a major field of study and related area courses which provide strong undergraduate preparation for graduate professional study.

Students should seek preprofessional faculty advisers in their interest area early in their academic careers to ensure development of sound, comprehensive study programs which fulfill the admission requirements of the professional program to which they wish to apply.

The following information on preprofessional study at UM-St. Louis is provided to give students minimal guidelines and assistance in planning a program.

Preprofessional Programs

Pre-Architecture

The Department of Art and Art History sponsors the 3+4 Program for the School of Architecture at Washington University. A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate with a bachelor of arts degree in art history from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:

- 1) The student has completed all general education requirements and all requirements for the art history major and lacks only the total hours (electives) necessary for a degree. (The courses at Washington University will fulfill all remaining courses.)
- 2) A student who has not completed required courses for the art history degree must remedy the deficiency with courses taken at the UM-St. Louis within three years of entering the professional school. At the time of graduation, the student must remain in good standing in the professional school or have successfully graduated from professional school.
- 3) A student who has not completed all the courses required for the art history major may, if the art and art history department at UM-St. Louis approves, substitute up to six hours of appropriate course work from the professional school.

The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure. For more information on admission requirements, please contact the College of Arts and Sciences at 516-5501, 303 Lucas Hall.

Pre-Engineering

The Joint Undergraduate Engineering Program of the University of Missouri-St. Louis and Washington University was established in 1993. It allows UM-St. Louis to offer complete bachelor of science degree programs in mechanical, electrical and civil engineering.

Students who enter the joint program take the pre-engineering half of their course work on the campus of UM-St. Louis. The remaining half of their degree programs, consisting of upper-level engineering courses and laboratories, is taken on the campus of Washington University and taught by Washington University engineering faculty members. The two campuses are separated by a driving time of about 15 minutes.

The UM-St. Louis pre-engineering program provides a solid base in mathematics, physics, chemistry, and introductory engineering subjects. Students completing the

pre-engineering program will be well prepared for transferring to engineering schools throughout the United States, including UM-Columbia, UM-Rolla, Washington University, and SIU-Edwardsville, in addition to continuing their education and earning their engineering degrees at UM-St. Louis.

Admission Requirements

In addition to the general admission requirements, prospective undergraduate engineering and pre-engineering students may be required to take a mathematics placement test, given at UM-St. Louis, the semester before enrolling.

Although there is no required pattern of high-school units for admission to the undergraduate engineering or pre-engineering programs, students are urged to complete at least four units of mathematics, including units in algebra (excluding general mathematics) and trigonometry. Calculus, if available, is also strongly recommended.

The following indicates pre-engineering course work required for students planning to pursue a bachelor of science degree in engineering at UM-St. Louis through the joint program with Washington University.

Math

80(1800), Analytic Geometry and Calculus I

175(1900), Analytic Geometry and Calculus II

180(2000), Analytic Geometry and Calculus III

202(2020), Introduction to Differential Equations

Chemistry

11(1111), Introductory Chemistry I

12(1121), Introductory Chemistry II

Physics

111(1011), Physics: Mechanics and Heat

112(1012), Physics: Electricity, Magnetism, and Optics

Introductory Engineering

Engineering

144(2310), Statics

145(2320), Dynamics

Humanities, Social Sciences, and English Composition

English

10(1100), Freshman Composition

Humanities Electives (three courses)

Social Sciences Electives (three courses)

Students planning to earn a bachelor of science degree in engineering at UM-St. Louis should choose humanities and social sciences electives to meet both the UM-St. Louis general education requirements and the humanities and social sciences requirements of the Joint Undergraduate Engineering Program. In particular:

- * A course in American history or government, or in Missouri history or government, must be included.
- * The cultural diversity requirement must be fulfilled.
- * At least 8 credit hours must be in one department or area within humanities or social sciences; of these 8 credit

hours, at least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.

Some courses that fulfill the humanities or social sciences breadth of study requirement do not count as humanities and social sciences electives; an example would be a statistics course taught in economics or Psychology.

For further information about undergraduate engineering and pre-engineering programs at UM-St. Louis, please contact the UM-St. Louis/Washington University Joint Undergraduate Engineering Program at 228 Benton Hall, 516-6800.

Prejournalism

Students wishing to pursue a journalism degree should review the entrance requirements of the schools they would like to attend for information on suggested prejournalism courses of study.

Students seeking a journalism degree from the University of Missouri must complete their junior and senior years at the School of Journalism, University of Missouri-Columbia. For admission, students must present to the UMC School of Journalism 60 acceptable credit hours. Admission is by sequence. Sequences include advertising, broadcast news, magazine, news-editorial, and photo journalism.

Required Courses

The following studies are required for admission to the School of Journalism:

English Composition: Students must complete at least the second course in an English composition sequence with a grade of B or higher. If a grade of C is received, the student must pass the Missouri College English Test on the MU campus. It is not possible to "test out" of this requirement.

Math: Students must complete College Algebra with a grade of C or higher.

Foreign Language: Four years of high school work in one foreign language or 12-13 hours of college work in one foreign language.

Science: Math 31(1310), Elementary Statistics plus 6 hours from biology, chemistry, astronomy, geology, physics, or above college algebra-level math. One course must include a lab. Please note: college algebra is the prerequisite course for statistics.

Science Electives: Five or 6 additional hours in behavioral, biological, physical or mathematical science from the following areas: anthropology, astronomy, biology, chemistry, geology, math (above college algebra-level), physics, Psychology, or sociology.

Social Science: Nine hours to include American history from the beginning to present day and American government/introduction to political science plus 3 hours in microeconomics. Please note: advertising majors must complete both microeconomics and macroeconomics.

Humanistic Studies: Three hours American or British literature plus at least 5 hours from 2 of the following areas: history or appreciation of art or music, philosophy, humanities, religious studies, non-U.S. civilization or classical studies, history or appreciation of theater.

In addition, word processing skills are required (40 words per minute).

Nontransferable courses at the School of Journalism are basic military science, basic physical education, business education such as typing or shorthand, journalism or mass communication, advertising, public relations, photography, and no more than 3 hours maximum of applied music, dance, acting, or studio art. Also, not transferable are industrial arts, orientation, and remedial courses.

The school accepts CLEP subject exams only, Advanced Placement Program (AP) or advanced standing. The school will not accept credit by exam to fulfill the English composition admission requirement. Credit should be referred for review.

Students are required to take two journalism courses at UMC prior to admission to the school (minimum 2.75 GPA required). The English composition requirement must be satisfied prior to enrollment in any journalism course.

For advisement and information, contact the College of Arts and Sciences, 303 Lucas Hall, telephone 516-5501.

Prelaw

Students planning to attend law school must pursue an undergraduate degree of their choice. There is no such thing as a prelaw major. Law schools encourage students to pursue a course of study that includes a broad liberal arts background. The prelaw advisor will assist students in choosing courses that will enhance their analytical and writing skills.

English language and literature courses are virtually indispensable. An awareness of the institutional processes of government obtained through study in political science is needed. Since law is inseparable from historical experience, an acquaintance with American history is important. Students should acquire a knowledge of macro- and microeconomics. Statistics, accounting, and computer science are valuable in understanding special legal subjects and the practice of law.

The University of Missouri has law schools at Columbia and Kansas City. University of Missouri-St. Louis students will find everything needed in planning an undergraduate program, preparing for the LSAT, and applying to law school in the office of the prelaw adviser. Students should contact the prelaw adviser through the College of Arts and Sciences, 303 Lucas Hall, 516-5501, early in their undergraduate studies.

Premedical Sciences

Students wishing to enter medical, dental, optometry, or veterinary medicine schools should pursue the B.A. or B.S. degrees with majors in the disciplines of their choice, but they should take whatever additional courses may be necessary for admission to the professional school.

Since medical school admission requirements vary, students are urged to consult the catalogs of the schools to which they intend to apply. Updated information may be found in *Medical School Admission Requirements* (United States and Canada) for the current year, available from the Association of American Medical Colleges
2450 N. Street, N.W.
Washington, DC 20037-1126

A copy is available for student use at the reference desk of the Thomas Jefferson Library. Students may also visit a Web site at www.aam.org.

Suggested Courses

Many medical schools recommend the following undergraduate courses:

Biology: Biology 11(1811), Introductory Biology I; Biology 12(1821), Introductory Biology II; Biology 224(2012), Genetics; and additional courses in molecular and/or cell biology.

Chemistry: Chemistry 11(1111), Introductory Chemistry I; Chemistry 12(1121), Introductory Chemistry II; Chemistry 261(2612), Structural Organic Chemistry; Chemistry 262(2622), Organic Reactions; Chemistry 263(2633), Techniques of Organic Chemistry; and additional courses in organic chemistry and quantitative analysis.

Mathematics: Students should take courses at least through calculus, as appropriate for the major degree.

Physics: 8 credit hours or as appropriate for the degree chosen.

Since students are not confirmed for admission to professional schools until the science requirements for admission are fulfilled, students should meet the science requirements before the end of the junior year. To complete these requirements in time, premedical students should take Chemistry 11(1111) and 12(1112), Introductory Chemistry I and II, during the freshman year.

Students also should take the required national standardized examination before or during the junior year as is appropriate for the exam; the Medical College Admission Test for premed students; the Veterinary Medical Aptitude Test for prevet students; the Dental Aptitude Test for pre-dental students; and the Optometry Admission Test for pre-optometry students.

Each year the number of applicants to health profession schools exceeds the number of available places. Students, therefore, are encouraged to have alternative plans should they not gain entrance. Pharmacy, nursing, and laboratory technology may be considered as alternative fields.

For further information, testing dates, or premedical advising, contact the pre-health professions adviser through the College of Arts and Sciences, 303 Lucas Hall, 516-5501.

Pre-Optometry

The University of Missouri-St. Louis offers a four-year program of study leading to the doctor of optometry degree; this professional degree is administered by the School of Optometry. It is one of only 17 schools of optometry in the United States and the only one in the state of Missouri.

Because the University offers the doctor of optometry degree, it is an ideal institution for pre-optometry education. There are two distinct programs available to UM-St. Louis pre-optometry students:

1. The Department of Biology sponsors a 3+4 Program for the UM-St. Louis School of Optometry. In this program, a student may be admitted to the School of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when the student satisfactorily completes the first year of the professional program. One or more of the following conditions must be met in order to qualify for the undergraduate degree. 1) All general education requirements and all requirements for the biology major, except electives, must be completed. 2) Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the School of Optometry. 3) Up to 6 hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology. For more information about the 3+4 program, contact the Department of Biology, 516-6200.

2. The Pierre Laclède Honors College and the School of Optometry offer the Scholars Program; this program allows a student to complete both the undergraduate and doctor of optometry degrees in seven years. To qualify for this program, a student must be a senior in high school; scored a minimum composite of 29 on the ACT; and be accepted to the UM-St. Louis Pierre Laclède Honors College program. For more information about the Scholars Program, contact the Pierre Laclède Honors College, 516-6870.

Prepharmacy

Admission to a school of pharmacy usually requires one to two years of college work in specified areas. Most colleges of pharmacy recommend the 1+4 plan which includes one year of college work followed by four years of

professional courses in the college of pharmacy. In some cases the old 2+3 program is used. Since entrance requirements vary, students should consult the catalog of the college to which they intend to apply.

A typical one-year sequence for prepharmacy students which meets the admission requirements of the School of Pharmacy at the University of Missouri-Kansas City and also those of the St. Louis College of Pharmacy is as follows:

Freshman Year:

First Semester (15 Hours)

Biology 11(1811), Introductory Biology I (At UMKC, Physics 11(1011), Basic Physics, is preferred.)
Chemistry 11(1111), Introductory Chemistry I
Math 30(1310), College Algebra, and Math 35(1035), Trigonometry (At UMKC mathematics through survey calculus, Math 100(1100), is preferred.)

Second Semester (16 hours)

Biology 12(1821), Introductory Biology II
Chemistry 12(1121), Introductory Chemistry II
Literature: Any 3-hour course
English 10(1100), Freshman Composition

For students pursuing a two-year prepharmacy sequence, it is recommended they continue with the following course work:

Sophomore Year

First Semester (16 hours)

Math 100(1100), Basic Calculus
Chemistry 261(2612), Structural Organic Chemistry
Literature: Any 3-hour course
Physics 11(1011), Basic Physics
Elective*: One 3-hour course

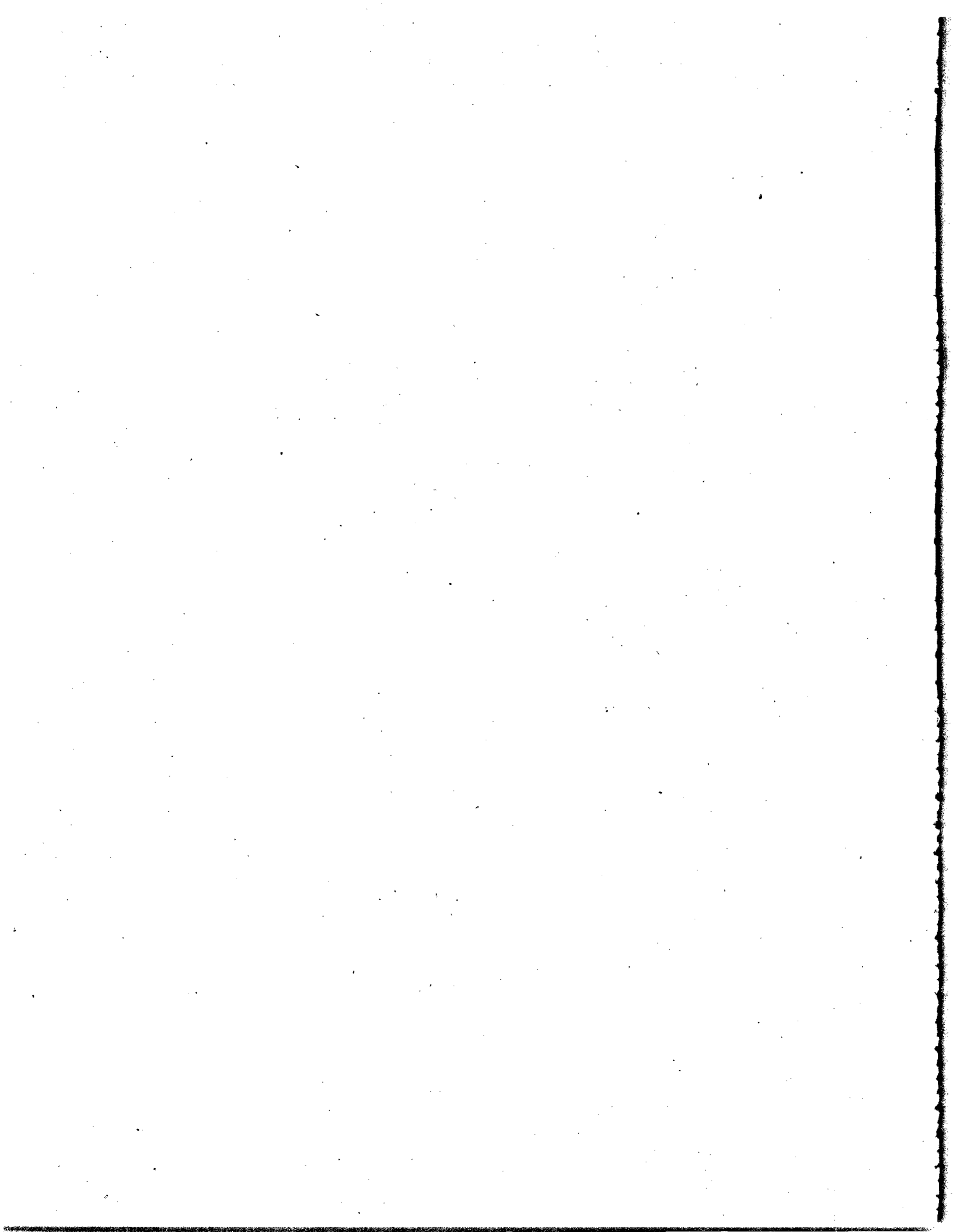
* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

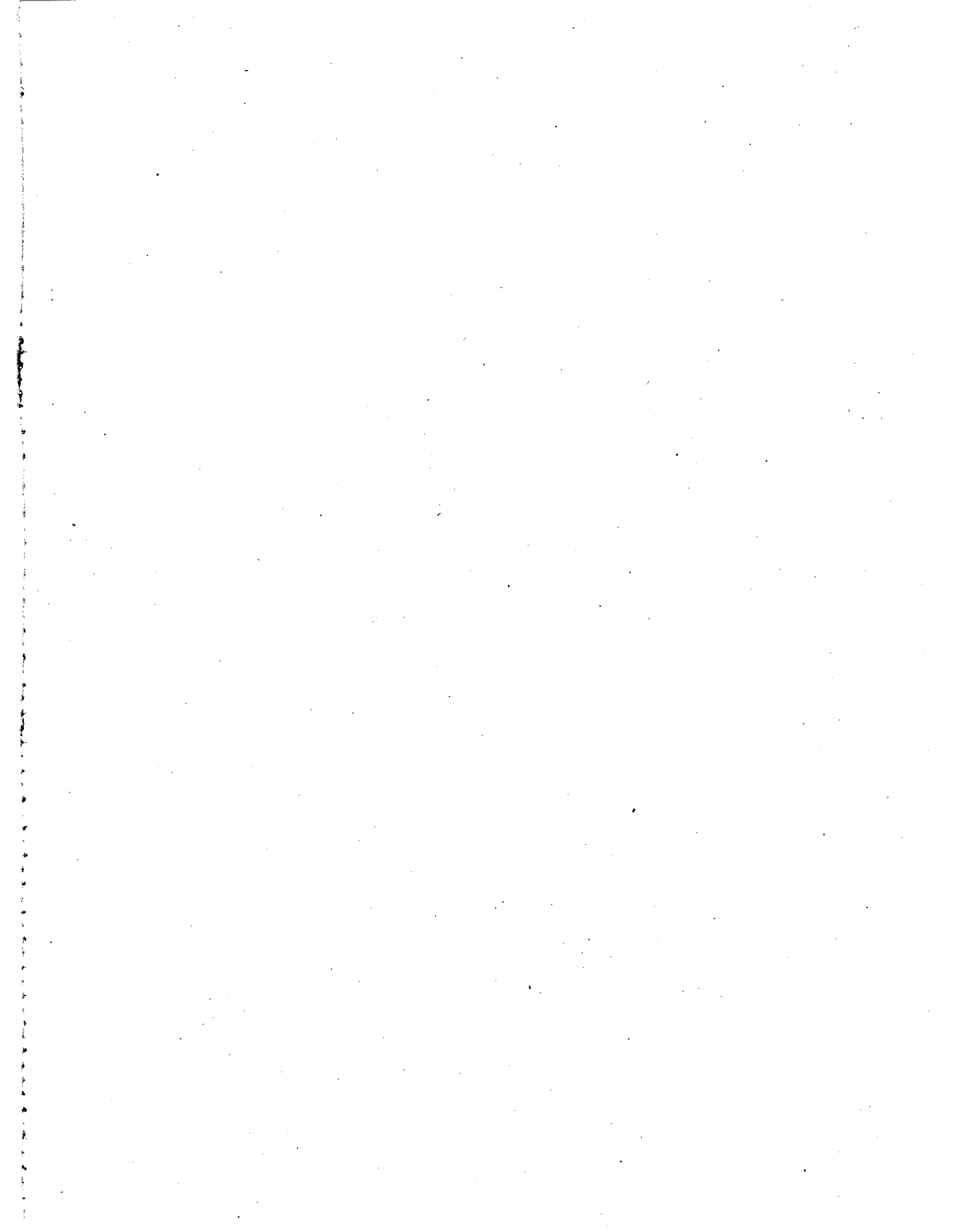
Second Semester (15 hours)

Biology: One biology elective
Chemistry 262(2622), Organic Reactions
Chemistry 263(2633), Techniques of Organic Chemistry
Physics 12(1012), Basic Physics
Elective*: One 3-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

For additional information and prepharmacy advising, contact the pre-health professions adviser, through the College.





College of Business Administration



College of Business Administration

Faculty

Douglas E. Durand, Professor*; Dean
Ph.D., Washington University

John J. Anderson, C.P.A., C.M.A., Professor*; Associate Dean
Ph.D., University of Wisconsin-Madison

David R. Ganz, Assistant Professor; Associate Dean and Director of Undergraduate Studies in Business
M.S. in C., Saint Louis University

Albert P. Ameiss, Professor Emeritus
Ph.D., Saint Louis University

Nasser Arshadi, Professor*, Vice Chancellor for Research
Ph.D., University of Nebraska

Howard B. Baltz, Professor Emeritus
Ph.D., Oklahoma State University

Allan Bird, Professor*
Ph.D., University of Oregon

James A. Breugh, Professor*; Coordinator of Management & Organizational Behavior
Ph.D., Ohio State University

James F. Campbell, Professor*,
Ph.D., University of California, Berkeley

William P. Dommermuth, Professor Emeritus
Ph.D., Georgia State University

Hung-Gay Fung, Professor*
Ph.D., Georgia State University

Michael M. Harris, Professor*
Ph.D., University of Illinois-Chicago

Marius A. Janson, Professor*; Coordinator of Information Systems
Ph.D., University of Minnesota

Kailash Joshi, Professor*
Ph.D., Indiana University

Sioma Kagan, Professor Emeritus; Diplom-Ingenieur
Ph.D., Columbia University

Edward C. Lawrence, Professor*; Coordinator of Finance
Ph.D., Pennsylvania State University

Joseph S. Martinich, Professor*
Ph.D., Northwestern University

Ray Mundy, Professor*; Director, Center for Transportation Studies
Ph.D., Pennsylvania State University

Robert M. Nauss, Professor*; Coordinator of Logistics and Operations Management
Ph.D., University of California, Los Angeles

David Ricks, Professor*
Ph.D., Indiana University

David Ronen, Professor*
Ph.D., Ohio State University

Rajiv Sabherwal, Professor*
Ph.D., University of Pittsburgh

Vicki Sauter, Professor*
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Ph.D., University of Minnesota

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Donald H. Driemeier, Associate Professor*; Deputy to the Chancellor
D.B.A., Washington University

Michael T. Elliott, Associate Professor*
D.B.A., Mississippi State University

Thomas H. Eyssell, Associate Professor*, Director of Graduate Studies in Business
Ph.D., Texas A & M

Timothy A. Farmer, C.P.A., Associate Professor*
Ph.D., Ohio State University

D'Anne G. Hancock, Associate Professor*
Ph.D., University of New Orleans

Julius H. Johnson, Jr., Associate Professor*
Ph.D., George Washington University

Charles R. Kuehl, Associate Professor*; Director of Continuing Education & Outreach-Business
Ph.D., University of Iowa

Donald R. Kummer, Associate Professor*
Ph.D., University of Oregon

Mary Lacity, Associate Professor*
Ph.D., University of Houston

Haim Mano, Associate Professor*; Coordinator of Marketing
Ph.D., University of Chicago

Mary Beth Mohrman, Associate Professor*, Coordinator of Accounting
Ph.D., Washington University

R. Frank Page, C.P.A., Associate Professor Emeritus
Ph.D., University of Illinois

Paul S. Speck, Associate Professor*
Ph.D., Texas Tech University

Ashok Subramanian, Associate Professor*
Ph.D., University of Houston

George C. Witteried, Associate Professor Emeritus
M.B.A., J.D., Northwestern University

Deborah B. Balsler, Assistant Professor*
Ph.D., Cornell University

Greg Geisler, Assistant Professor*
Ph.D., University of North Carolina at Chapel Hill

Thomas Kozloski, Assistant Professor*
Ph.D., Drexel University

James M. Krueger, C.P.A., Assistant Professor*; Vice Chancellor for Managerial & Technological Services
D.B.A., Indiana University

Dinesh Mirchandani, Assistant Professor*
Ph.D., University of Kentucky

Stephen R. Moehrle, C.P.A., Assistant Professor*
Ph.D., Indiana University